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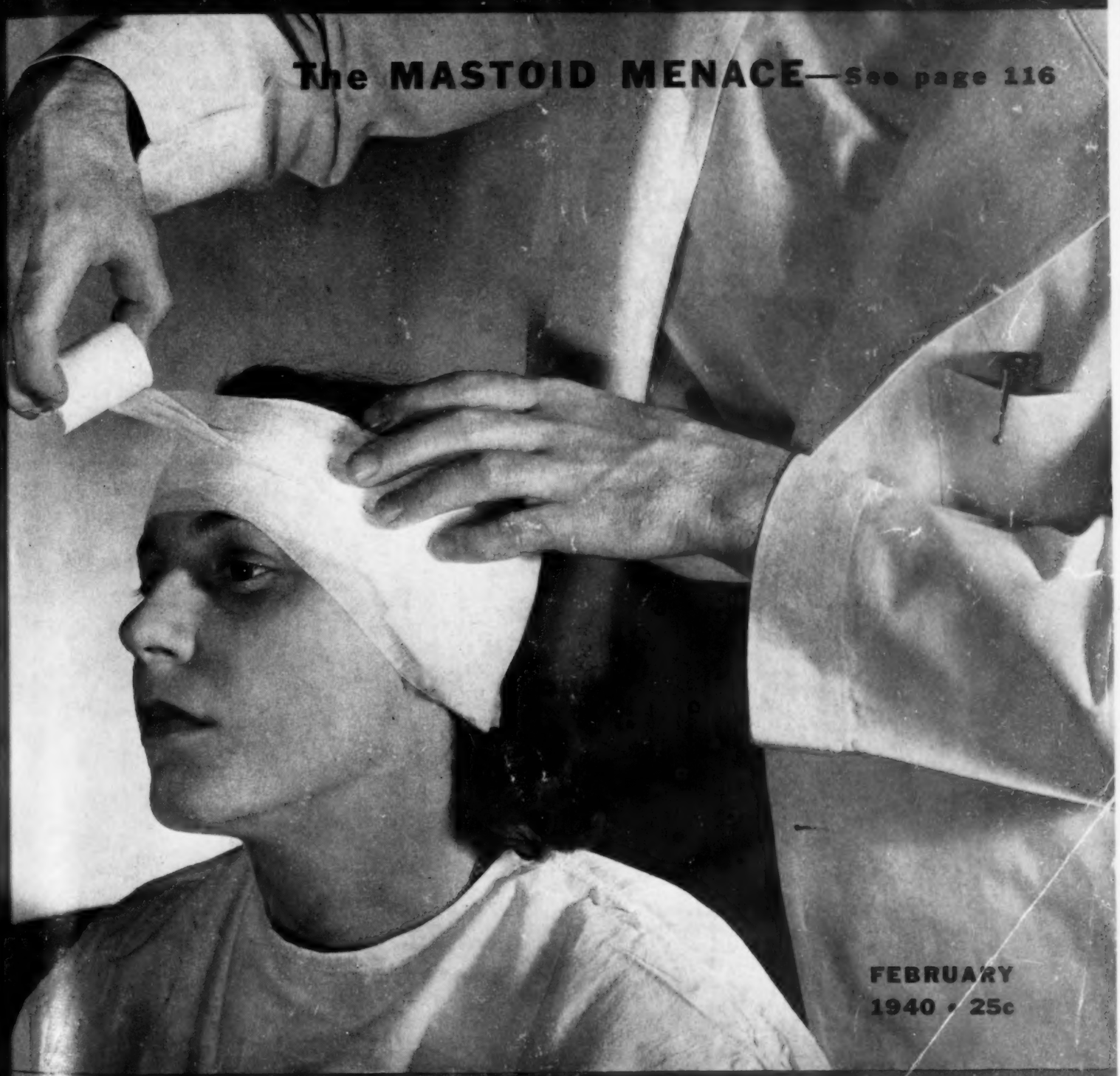
THE HEALTH MAGAZINE

HYGEIA



The MASTOID MENACE—See page 116

FEBRUARY
1940 • 25c

Beginning a new series:

The NINE MOST DEADLY DISEASES

—the first is HEART DISEASE

"I'll bet your doctor tells that to all the girls!"

"Of course he does—he knows Libby's vegetables are just right for a six weeks old baby!"

Future Glamour Girls and Football Heroes are being raised on diets far different from what they used to have.

Today, many doctors are starting them on specially prepared vegetables at an early age—yes, often as early as six or seven weeks!

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Libby's Baby Foods are widely recommended as baby's *first* vegetables and fruits because they're extra fine and smooth in texture—*extra easy to digest.* (And that's because Libby's Baby Foods are first strained and then *specially homogenized!*)

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Libby's Baby Foods are first strained—then specially homogenized—to make them extra easy to digest.

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Carrots · Spinach · Peas
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—pure, economical, convenient. An ideal milk for babies.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

The American Medical Association Council on Foods has accepted Libby's Baby Foods as suitable for feeding to babies as young as one or two months of age.

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* Special homogenization of baby food vegetables, fruits, cereal and soup is an exclusive Libby process that completely breaks up cells, fibers and starch particles, and releases nutriment for easier digestion. U.S. Pat. No. 2037029.

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*City*_____ *State*_____

*Grocer's Name*_____

BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

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HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1940, by the American Medical Association. Edited by Morris Fishbein, M.D.

EDITORIAL PREDICTIONS

Pneumonia and influenza combined produce a mortality rate that is second only to heart disease. It therefore becomes the second subject in HYGEIA'S series of articles on the "Nine Most Deadly Diseases" and is contributed by Jesse G. M. Bullowa, M.D. This series is one of the most vital and significant that HYGEIA has ever published. It discusses at length the nine diseases which together account for 72 per cent of all deaths—nearly three out of every four of them. Opening in this issue with an article on heart disease by Paul Dudley White, M.D., it will continue down the list month by month: influenza and pneumonia, cancer, inflammation of the kidneys, brain hemorrhage and paralysis, tuberculosis, congenital malformations and diseases of early infancy, automobile accidents and diabetes.

The thyroid gland is one of those organs which is diminutive in size but enormous in effect on the activity of the body. Its misbehavior can make a person gain weight and become sluggish and mentally dull, or it can cause loss of weight, excessive nervousness and excitability. Paul A. White, M.D., describes this interesting little gland and will acquaint you with all its oddities next month.

The old notion that motherhood usually ruins one's figure for the rest of her life is as old fashioned as high-buttoned shoes. Mrs. Charlotte Redfield Welsh maintains that motherhood improves the average woman's figure, which is usually too "hippy" in proportion to the smaller measurements above the waist. Having babies need not permanently enlarge the hips, unless unnecessary weight is allowed to accumulate and stay there, she says. To combat this and to help nature take its course after the baby is born, Mrs. Welsh gives several excellent exercises and good pointers in "Your Baby Carriage" appearing in the March issue.

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a straight, strong back.....

Baby will probably more than double her birth weight at twelve months! But weight isn't the only thing a mother watches. She sees that baby gets plenty of Vitamin D....to help build a straight back ....a sturdy frame. Because fog, clothing, window glass may prevent sunshine from providing enough Vitamin D, many mothers give Squibb's Cod Liver Oil every single day.

If you're going to have a baby.....

you'll want him to develop a well-shaped head ...a fine, full chest like this...a straight strong back...sound, even teeth. So when he's a month or six weeks old...you'll start giving Squibb's Cod Liver Oil every day. In the last few months of pregnancy, you'll want to take a Squibb vitamin product, yourself, to protect your own bones and teeth. Vitamins A and D come in easy-to-take capsules as well as in cod liver oil.

well-spaced even teeth...

The first few months may decide whether teeth will be uncrowded later in life. Squibb's Cod Liver Oil, given regularly every day, helps provide the Vitamin D needed for sound, even, properly spaced teeth. It helps develop baby's jaw and chin fully, too.

Vitamins guarded! You get what you pay for!.....There's no padlock on the Squibb bottle, but under the cap you'll find a transparent seal which keeps air from contact with the oil and retains the carbon dioxide. This helps to guard the vitamins. Squibb's Cod Liver Oil contains more than twice as many Vitamin A units and three times as many Vitamin D units as cod liver oil which just meets the minimum requirements of the U.S. Pharmacopeia. It's an economy to buy Squibb's. Ask for it today—by name—at any good drug counter....*The priceless ingredient of every product is the honor and integrity of its maker*

SQUIBB'S Cod-Liver Oil

LETTERS FROM *Readers*

Trichinosis

To the Editor:

In the January issue of HYGEIA appears an article, "Unbidden Guests," by L. W. Bryce, which on the whole seems excellent. However, on page 72 is the statement, "Man acquires it [Trichinella spiralis] by eating raw or poorly cooked pork from a hog that picked up the worm by eating an infected rat."

I had thought that the recent view of rats playing a major part in man's acquisition of trichinosis has been modified. In *Public Health Reports*, "Studies on Trichinosis," by Maurice C. Hall, in the issue of Aug. 19, 1938, page 1472, is the following:

"Human trichinosis rests primarily on a basis of swine trichinosis.

"Swine trichinosis rests primarily on a basis of uncooked or inadequately cooked pork scraps fed to swine in garbage, table scraps, swill, and similar material. . . .

"Rats appear to have a very minor role in the production of porcine trichinosis, and at this time may be given only secondary consideration in our control measures."

MOSBY G. PERROW
Director Public Health

Lynchburg, Va.

>> *Our statement was not incorrect, but it was incomplete. The statement should have been modified to read, ". . . hog that picked up the worm by eating uncooked or inadequately cooked pork scraps fed to swine in garbage or, more rarely, from eating infected rats."*

▲

Jane Wither's Health

To the Editor:

On page 988 in the November issue of HYGEIA there is a statement under a picture of Jane Withers saying, "She has never been sick a day in her life," which is incorrect. I saw Jane Withers and her mother at the Chicago Arena one afternoon last winter, and the child was ill—had been since the day before, with an "upset stomach." She was appearing at a Chicago theater, and her mother was concerned about her going out where the children were skating, as it was "so cold," and Jane was not a bit well. Sorry to disillusion the author of this article, but facts are facts.

ERMINIE G. HINEY, R. N.

Oak Park, Ill.

>> *The following reply was received from Miss Wither's studio:*

"In my opinion the original statement still holds true. Jane may have had a stomach ache from eating too many hot dogs or too much ice cream; but from the letter, I judge that she was not too ill to go on with the show. Mrs. Withers' attitude merely shows proper precautions against illness, as the rapid change in climate—from the warmth of California to the rigors of Chicago—deserves."

▲

"The Health of the Teacher"

To the Editor:

This is just to tell you that I read "HYGEIA" with pleasure and profit, but no article has meant more to me than "The Health of the Teacher" (December, page 1075) by James Frederick Rogers, M. D., with its delightful and stimulating Eleven Commandments for Teachers.

JEANNE ROSSELET

Baltimore

▲

"Public Malady Number One"

To the Editor:

In the January (p. 8) issue of HYGEIA, "Public Malady Number One," by Lois Mattox Miller, is well described.

The illustration of "a locomotive engineer in drafty cab is less likely to catch cold than his passengers behind," is true to form.

Several days after Roosevelt's Thanksgiving day I was on a train coming home from San Francisco to Reno, an all night trip. The Pullman car was crowded. In the morning the car was as hot as a turkish bath, and several of the passengers were perspiring, including myself. The porter was too busy shining shoes to read the thermometer. The only ones who felt rather comfortable were a few scantily dressed young women.

At 8 a. m., when I got off the train, the weather was frosty and really snappy, and the following day I was suffering with "public malady number one." My nose looked and acted like an icicle dripping on a sunny winter day. I was offered and recommended at least 57 varieties of remedies to check the cold, or at least the running nose.

FRED PHILLIPS

Reno, Nev.

▲

"It Was Only a Scratch"

To the Editor:

We have noted with a great deal of interest the article in the December 1939 issue (page 1072) of HYGEIA, entitled, "It Was Only a Scratch" by Lois Mattox Miller.

We are wondering if you would give us permission to reproduce this article in the *Norfolk and Western Magazine*, which is circulated among the 20,000 employees of the Norfolk and Western Railway. We believe that the publication of this article might prevent needless suffering and death among our workers and members of their families.

R. R. HORNER
Managing Editor

Roanoke, Va.

>> *Permission granted.*

To the Editor:

I would like to have your permission to have your article "It Was Only a Scratch" which appeared in the December issue of *Reader's Digest*, printed in a pamphlet and placed in each of our employees' pay envelops.

I think it is such a splendid article and believe our employees will derive a great deal of benefit from it.

H. J. HALL,
Personnel Manager,
The Standard Register Company

Dayton, O.

>> *Permission granted.*

To the Editor:

In the December 1939 issue of the *Reader's Digest* there appeared an article entitled "It Was Only a Scratch" by Lois Mattox Miller, as condensed from the December 1939 HYGEIA.

We would appreciate having your permission to use this article in the next issue of the *Ten Pen News*, our local factory publication.

This article will be of considerable value to our safety program as we are making a continuous effort to get all of our small injuries reported to the first aid room. If you can grant us the use of this article, we will be indebted to you.

HAYES A. SHAW,
Safety Engineer,
Pittsburgh Plate Glass Company
Pittsburgh

>> *Permission granted.*

To the Editor:

We have read with interest a condensation of the story "It Was Only a Scratch" which appeared originally in your magazine HYGEIA.

This article expresses so well what we have been attempting to tell Carnation employees as part of our safety program that we are going to ask your permission to reprint the *Reader's Digest* condensation in the next issue of our employee magazine *The Carnation*.

Full credit will be given, of course, for the source of the story. If in the event you are agreeable to our reproducing the story we would be pleased to have your suggestions.

We have received the American Medical Association news releases regularly and have found them very valuable in editing an employee publication. In fact, it would be fairly difficult for us to get along without them.

D. M. STEPHENS,
Editor, *The Carnation*,
The Carnation Company
Oconomowoc, Wis.

>> *Permission also granted.*

▲

Transmission of "Medicine in the News"

To the Editor:

I write as one entirely sympathetic to the gospel which HYGEIA preaches and to the crusading efforts of the American Medical Association.

Such an attitude makes all the more provocative of protest the recent slips of your legend writer who has garbled the field of physical science rather grossly on page 1045 of the November issue, which is the page devoted to the radio announcement.

The three misstatements about sound are climaxed by the "Antenna which sends *sound* into the *air*." The story accompanying the illustrations is much better and at variance with the legends.

ELBERT C. WEAVER,
Instructor in Physics,
Polytechnic High School
Long Beach, Calif.

>> HYGEIA *did make the mistake of mislabeling a radio tower an antenna. The antenna is the wire arrangement carried on one or more towers.*

In the process of simplification, HYGEIA *did say that sound comes by wire to the transmitter and that giant tubes amplify and regulate sound. In a strictly technical sense, the wires and the tubes do not actually deal with sound but with electrical impulses originating at the microphone in the studio from sound waves in the air. The sound is reproduced by the speaker at the receiving set. Between the microphone and the speaker, there is no sound but only electrical impulses and modulated radio frequency transmission waves.*

While the correspondent's criticism is technically correct, and we appreciate his friendly and close scrutiny of HYGEIA, *we do not believe that our description of how "Medicine in the News" reaches the public, which was written for us by NBC engineers, seriously misled anybody.*

Who's Who IN HYGEIA

PAUL DUDLEY WHITE, M.D., opens our new series of articles on the "Nine Most Deadly Diseases" in this issue (page 104) with a discussion of heart disease. Today's knowledge of heart disease is comprehensively presented in this article; after reading it, you, too, will agree with Dr. White that science has considerably broadened the scope of study of the activity and diseases of the heart.

Dr. White is lecturer in medicine at Harvard University Medical School.

EDWARD L. COMPERE, M.D., unlike most other physicians, majored in English literature in college and received his Bachelor of Arts degree from Baylor University. He then obtained his master's degree at the University of Chicago before studying medicine at Rush Medical College of the University of Chicago, from which he was graduated in 1926. For the past few years he has been an associate professor in the division of orthopedic surgery at the University of Chicago. His principal interest, aside from his immediate work, has been in attempting to develop a more satisfactory program for the physically handicapped persons in the state of Illinois. For more than a year, he has been president of the Illinois Association of the Crippled, an organization dedicated to the achievement of this goal.

REYNOLD A. JENSEN, M.D., is assistant director of the Psychiatric Clinic for Children at the University of Minnesota Medical School. He is also assistant professor in psychiatry and in pediatrics at the university there. Following his internship, Dr. Jensen spent three years in adult psychiatry and child guidance work; his psychiatric training was obtained in Rochester, N. Y., Philadelphia, and Boston—one year in each location.

LOUIS M. PEARLMAN, M.D., was Chief of the Ear, Nose and Throat Clinic of the Harlem Hospital dispensary, New York City, for ten years, and he is now a member of the Ear, Nose and Throat staff of the New York Polyclinic Medical School and Hospital.

The NATION'S HEALTH

SINCE the end of the World War certain agencies have waged a persistent campaign to force a revolutionary change in the nature of the practice of medicine on the American people. The proposals have included complete systems of state medicine with all medical care and all hospitals under the control of the state, compulsory sickness insurance, either as a part of the social security law or under state auspices, reorganization of medical service under a system of cooperatives and vast expenditures under federal control to encourage a trend toward one or another of these systems. The pressures culminated in the so-called National Health Conference, at which was publicly unveiled for the first time the so-called National Health Program. When the President sent that program to Congress with a recommendation for careful study, the proponents of the program encouraged Senator Wagner of New York to introduce the so-called Wagner Health Bill, S. 1620. This measure is in the hands of the Subcommittee of the Senate Committee on Education and Labor and is still pending.

Consistently and steadfastly the American Medical Association, now including more than 116,000 of the physicians of this country, has opposed all trends toward totalitarian or communistic medicine, firm in the belief that such a movement would be inevitably the first step toward a breakdown of the democratic system of government. Now the President of the United States has himself characterized the Wagner Health Bill as a grandiose scheme and has himself recognized the sound basis of the fundamental principles underlying the platform for health of the American Medical Association. This platform was fully described in last month's issue of HYGEIA (page 6).

In the drive for vast expenditure and complete state control of medical practice, all the arts and technic of modern propaganda have been used. Both physicians and lay employees of the various federal bureaucracies, which would undergo tremendous expansion under the proposed plans, have visited various states and have spoken before all sorts of lay and professional organizations urging enactment of the enabling legislation. Doctors who might better have been employed in their work of preventive medicine have toured the nation urging the support of the new schemes. Medical statistics have been perverted to picture to the people of our country a nation in dire emergency for lack of medical care, and this at the very time when our sickness and death rates were the lowest ever achieved in our country and as low or lower than those of other comparable great nations of the world.

The American Hospital Association, the American Dental Association, the American Medical Association, representing three of the greatest professions concerned with the care of the sick have been forced to spend greatly of their time and of their funds to defend American medicine against full time public health officials who wanted to have the complete care of the sick placed under the political health agencies in the individual states throughout the nation.

As 1939 came to an end the American Medical Association recognized the existence of localized areas which may require federal aid in meeting emergent medical problems. It asked for recognition of the principle of private practice as the basis of the high quality of medical education and medical service existing in our country today. It asked that no proposal be tolerated that would tend to break down the democratic system of government. It recommended aid wherever aid is required, subject only to the funds available and to recognition of the principle of local demonstration of need and local administration of funds. It asked finally for unification of all health activities of the federal government to avoid wastage of funds, duplication of effort and multiplication of bureaucracies and federal agencies.

As 1939 came to an end President Franklin D. Roosevelt spoke in opposition to grandiose schemes and in opposition to the insidious grants-in-aid technic. This technic has stimulated federal employees to go into the individual states to urge state legislatures to enact laws written by federal agencies to give them opportunity for expansion and control over state and local activities. The President has expressed a desire to build hospitals in areas where their need can be shown, with the understanding that such institutions would be taken over and administered locally as soon as possible. It becomes necessary here to point out again that a hospital is only four walls with beds and equipment. Regardless of the economy or lavishness of expenditure, a hospital is no better than the quality of the physicians who make up its staff. The ability of the local profession to utilize the hospital facilities proposed must be taken into consideration in each instance. The mechanism by which medical service is to be rendered in the proposed hospitals must have the most meticulous consideration.

As 1939 came to a close, medical research and medical service in the United States were at an exceedingly high peak. New drugs seem to forecast control over infections with pneumococci, streptococci and staphylococci such as was never before possible. The figures from two great universities showing less than one half of 1 per cent of students infected with syphilis indicates possible exaggeration of the significance of that problem and demonstrate the necessity of determining just where major efforts need to be exerted. Research against cancer proceeds at an accelerated pace in many places. New knowledge of the vitamins and the glands will mean increased health, freedom from pain, improved growth for vast numbers of people. American medicine has demonstrated its high quality and its efficiency. Let us not embark too hastily on uncontrolled experiments which may tend to wreck all that the great medical professions working under the American system have built. American medicine is a priceless heritage that should not be squandered to make a political theorists' holiday.

***The one disease that takes more lives than any other is HEART DISEASE, for which reason it is now known as "Captain of the Ranks of Death." A hopeful point of view is expressed by* PAUL D. WHITE**

Deadly Disease

ALL MEN are mortal. Life ceases when the heart fails. There are many reasons why the beating of the heart should stop; but the commonest cause is disease of the heart itself. Let us suppose that death from heart disease were to come to every one quietly and quickly at an advanced age, say between 75 and 100. Would there be anything to regret or dread in that? Might we not welcome a steady increase in mortality from heart disease if that were the way it worked?

As a matter of fact, a good deal of the increased mortality from heart disease in recent years does come from cardiac deaths in old age. Moreover, the increase has been greater in the aged than in the young and middle aged, and recently there has been an actual decrease of heart deaths among the young in this country. This is a real step ahead, for it means two important advances in health in America: first, a marked reduction in other causes of death in youth—in particular, the infectious diseases—which allows survival of more persons to old age when they are likely to die of heart disease, and second, an actual reduction in the seriousness of diseases which damage the heart in the young.

However, there is still an important fact to face. While on the one hand, decreased deaths from heart disease in children are beginning to dispel the gloom of the widely heralded increase of mortality from heart disease, which in our generation has won the title of the Captain of the ranks of death,[1] on the other hand the majority of deaths from heart disease still occur under the age of 70. We may hope that the balance will swing the other way ere long.

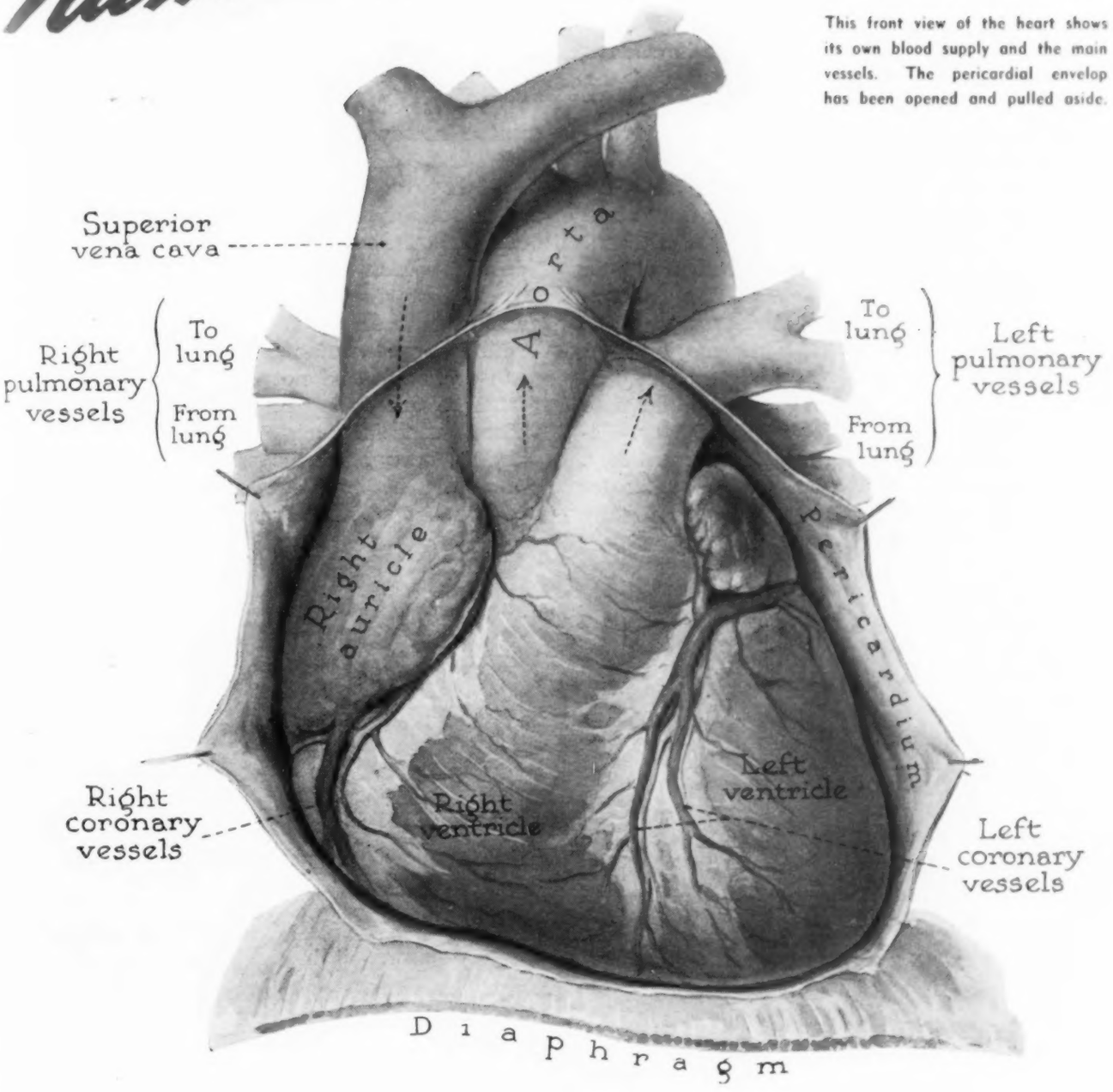
1. As recently as 1920, Osler and McCrae called pneumonia the "Captain of the Men of Death," using the phrase previously applied by John Bunyan to consumption; but now heart disease has far outstripped both these former scourges.

The Incidence of Heart Disease

A few figures may help to indicate in a rough way the scope of the problem. In 1930, in the registration area of the United States, there were about 1⅓ million deaths from all causes, and about ¼ million or almost exactly a fifth of the total were recorded as cardiac deaths. Of these, 110,000 were in persons over 70 and 140,000 in persons under 70. That ratio should not be. We see thus a tremendous cardiac mortality below the age of three score and ten; it is this problem that demands more and more study for solution. Even the age of 70 is too young for death from heart disease or any other cause in many of our useful citizens. At the same time, it is encouraging that there were over 100,000 persons in the country who survived seventy years before they succumbed to heart disease.

Almost a third of all deaths over the age of 70 years in the United States in 1930 were reported as due to heart disease, while only 14½ per cent of the deaths under 70 were so caused. With only one exception, the principle holds true that the younger the person is, the less likely is heart disease to claim him. In the statistics just noted, there was only one death from heart disease in 200 total deaths of children under 5 years of age; there was one such death in twenty-five between the ages of 5 and 10 and one in twenty between 20 and 30 years. The exception occurred between 10 and 20 years when approximately one death in ten was due to heart disease, doubtless because that is the age when the acute rheumatic infection takes its largest toll in involvement of the heart, especially between

Number 1—



This front view of the heart shows its own blood supply and the main vessels. The pericardial envelop has been opened and pulled aside.

10 and 15. Between 30 and 40 years of age, heart disease claimed one in ten deaths, between 40 and 50 one in five, and between 50 and 60 one in four. After 60 years cardiac deaths always accounted for more than one quarter of the total mortality.

Another statistical fact of considerable interest and importance concerns the change in our own generation in the order of mortality of five of the most common causes. Thirty years ago tuberculosis led the lot, followed by infantile dysentery and pneumonia; heart disease and cancer followed in that order. Now heart disease leads with a tremendous majority, causing many more than twice the deaths of its nearest competitor, cancer. Tuberculosis, pneumonia and infantile diarrhea, have dropped way down to much less than half their former rates.

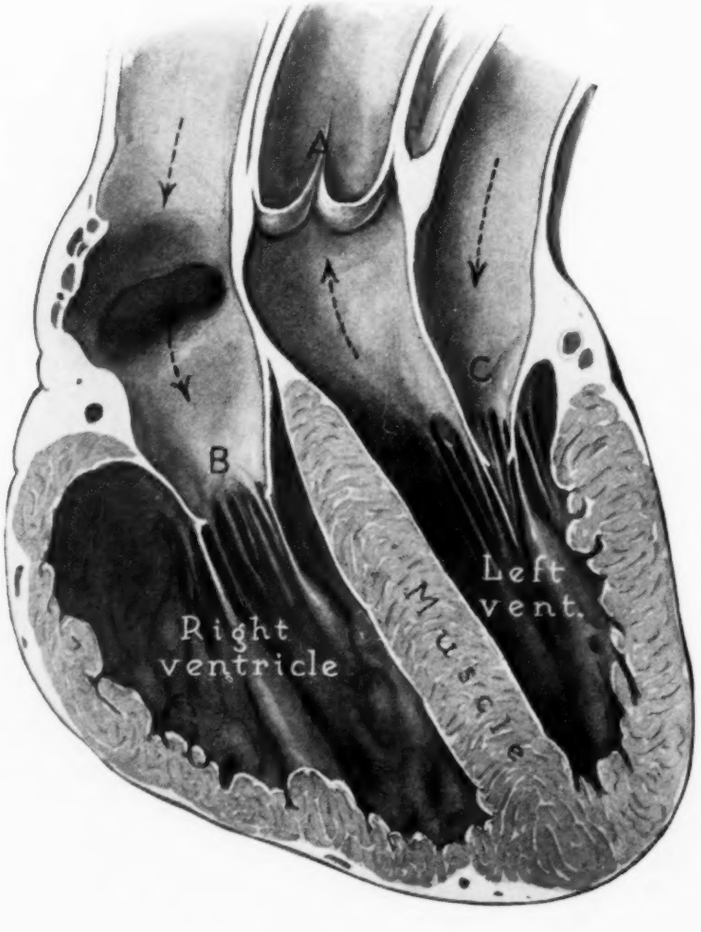
These differences have come about for various reasons. In the first place, the infectious diseases have greatly diminished both in fre-

quency and severity, partly because of public health control, partly because of better treatment and probably also because of a natural evolution of the diseases themselves. Hence, in the second place, as a result of this state of affairs, more persons survive to an age when they are likely to acquire heart disease. Third, the diagnosis of heart disease (and also cancer) is much more accurate nowadays and also much more inclusive; fewer of the milder or obscure cases are missed. Many cases formerly called Bright's disease, arteriosclerosis or senility are now correctly labelled heart disease. And fourth, there is likely an actual increase of heart disease in middle and old age, incident both to our way of life and to the survival of less fit individuals, who in olden times would have succumbed to the hazards—not all infectious—of early life.

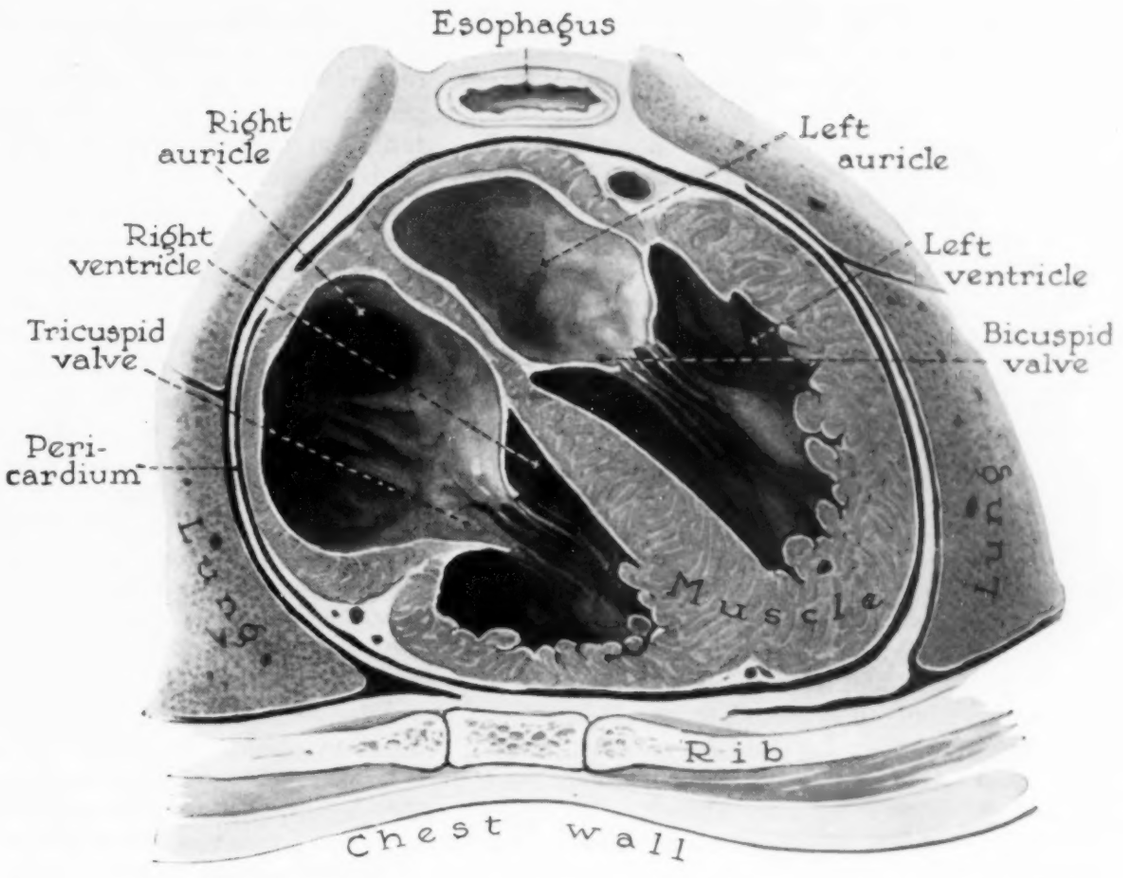
Another piece of general information that should be of considerable interest and importance, but of which we have as yet inadequate knowledge, concerns morbidity from heart disease—a very different thing from mortality. Many persons with lesser or milder heart lesions die of other causes, as do even some with serious lesions. Another difficulty is geographical. There is a great difference in the community incidence of heart disease in different countries and, in fact, in different parts of the same country, especially if it is large, as in the United States. Roughly estimated, ½ to 1 per cent of the school children in the northern part of the United States are afflicted with heart disease, if we can assume the figures of New York City and Boston to be typical of other places. In the Southern states, however, there are far fewer children with heart disease.

Right here, however, we should consider the definition of heart disease, for, especially in old persons, slight changes in the heart may develop which are not worthy of the designation heart disease. That is a term which should be reserved for obvious abnormalities which cause cardiac enlargement or threaten life or health and not for minor disorders.

There are interesting differences of heart disease morbidity and mortality in sex, in race and in occupation, as well as those already noted in history, age and climate. These differences will be discussed more fully later



This simplified drawing shows how the frontal section of the heart would appear if it were thus exposed. The direction of the blood flow is indicated by arrows. A, semilunar valve of the aorta; B, tricuspid valve, and C, bicuspid valve.



Cross section through the heart showing its relationship to the lungs and the chest wall. All four chambers of the heart can be seen here.

in the consideration of the different kinds of heart disease. Suffice it to say here that the male sex suffers much more heart disease and more seriously than does the female; the Negroes have more than the Whites, and professional and business men more than hard physical workers.

Exaggerated Fear of Heart Disease

The words "heart disease" strike terror throughout the world but, in the great majority of cases, needlessly. Why is that so? History can explain. In the first place, heart disease was not recognized until 1500 A. D. Previously it was thought that if the heart were affected at all, death must come at once. Then at autopsies, which began to take place in the sixteenth century, serious heart lesions were discovered, some of which were obviously old scars. Heart disease was then acknowledged to be compatible with life. But there still remained then, and in fact until recent days, a dread of heart disease as something progressive, which carried with it a greater or lesser degree of invalidism and shortening of life. Now we know that heart disease is often slight, nonprogressive, in fact even retrogressive, and compatible not only with full length of life but also in many cases with full activity. Hence, it is essential that in any given person more must be known than just that heart disease is present. How much heart trouble? What kind? Is the cause still active? What other diseases or disorders are present and responsible for some of the symptoms and signs which in part or in whole may be erroneously attributed to the heart disease? And most important, is there any heart disease at all? May not the symptoms and signs be of other origin?

There is a vast amount of cardiac neurosis extant now, caused largely by an ill judged and exaggerated publicity about the frequency and dangers of heart disease. Not only do many persons with heart disease have an unwarranted fear of their condition, but still more persons without any heart disease at all are afraid they have it because of some discomfort that they wrongly ascribe to heart disease, or because some friend or relative has been ill or died of such trouble. Much of this dread can be readily dispelled by estab-

lishing a common sense point of view of heart disease based on the great advances in our knowledge that have come in the last decade or two. It is to be emphasized that most heart symptoms are not the result of heart disease but rather of a sensitive nervous system which can mimic real heart disease by the production of such symptoms as heart pain, shortness of breath and palpitation. Many times trouble elsewhere in the body may produce heart symptoms by reflex action.

Many heart conditions are of the nature of acute or nearly acute illnesses, often with great discomfort and some temporary danger but with complete or almost complete recovery after some weeks or months. In other words, it is highly important for all concerned to distinguish between immediate and ultimate prognosis [outlook for the future] in cardiac patients. The immediate prognosis may be temporarily grave; but with recovery from the acute illness the future prognosis indicates that the heart may be good for years. There is a definite tendency to diagnose "permanent total disability" when recovery to a fair state of health with years of life ahead is a strong possibility.

When heart disease was first recognized 400 years ago, only the vaguest idea as to its cause existed, and such was the state of affairs down almost to the present time. The chief interest for centuries was in structural lesions, that is, in enlargement of the heart both by hypertrophy [overgrowth] of muscle and by dilatation of any one or more of the four heart chambers, in damaged valves (mitral, aortic, tricuspid and pulmonary), in inflammation and thickening of the pericardium, or sac in which the heart lies, and in lesions of the great blood vessels. Gradually, disturbances of heart function attracted attention: muscle weakness with congestive failure, faulty supply of blood to the heart muscle itself because of diseased coronary arteries, which produced angina pectoris, and irregularities of rhythm.

Last but most important of all, there has come in our own generation the belated recognition of the prime need for determining wherever possible and recording the cause of the heart disease, that is, the etiologic diagnosis. Such a point of view is not only vital for the proper understanding of the prognosis [forecast] and treatment of the individual case, but, what is even more important, it is the key to the preventive medicine of the future, now already well started.

The Causes of Heart Disease

There are a thousand and one causes of disorders of the heart and circulation, but the great majority of them are so rare or unimportant that only now are they beginning to be studied adequately; to date a multitude of conditions have been already listed rightly or wrongly as causes of heart disease. One of the great advances in our day has been the clear designation of the more important causes which may act separately or simultaneously to damage the heart. Some danger of confusion exists, however, in the overemphasis that threatens to be placed on the less common or less important causes. Although it is hard to keep the pendulum from swinging too far first in one direction and then in the other in the enthusiastic study of heart disease that has been going on recently in this country, it is true that the greater the enthusiasm, tempered with judgment, the sooner we shall advance our knowledge.

The six most important causes of heart disease are rheumatic fever, high blood pressure, sclerosis [hardening] of the coronary arteries which supply blood to the heart muscle itself, syphilis which especially affects the first part of the great artery, or the aorta, subacute bacterial endocarditis which is due to inflammation of the inner lining membrane and valves of the heart by the germ called Streptococcus viridans, and congenital [inborn] defects. The first three are common, almost equally so in New England, each one constituting from one fourth to one third of the heart ailments; but they are frequently found in the same patient, especially high blood pressure and coronary disease. The second three are much less common and, again in New England almost equally so, comprising from 2 to 4 per cent of the cardiac cases, more or less in the order named. In some parts of the country, especially in the states of the far South, rheumatic heart disease is relatively rare and cardiovascular syphilis extremely common, their incidence being transposed in comparison with that found in New England.

Rheumatic fever, as yet of unknown origin and often insidious and mild and hard to recognize, causes damage to the heart muscle in its acute stage by an inflammatory reaction and often likewise an infectious reaction in the inner lining, the endocardium and valves, and in the outer lining, the pericardium. Chronic effects of rheumatic heart disease result chiefly from a scarring of the valves and consist of enlargement of the heart, irregularities of rhythm and in some *(Continued on page 168)*

When you seek a doctor's aid, do you know what you are expected to do? Or how you can assure yourself of the best he has to offer? A doctor will give you all the more attention and time, if you will cooperate fully. Here are a few tips you may not know—

By PHILIP REICHERT

How to be an INTELLIGENT PATIENT

UNNUMBERED volumes are available on the treatment of patients, but never have I seen a paragraph on the treatment of doctors. The neglect of this vital subject cannot be explained. Doctors as a rule are fitted to their tasks by a long and complicated training, many examinations, diplomas and licenses. Patients, alas, like parents, are too often thrust into their role with little experience and no training whatever. Surely, it is obvious that an unsatisfactory result in the unique relationship between doctor and patient is precariously easy; it is far more likely to be due to the unintelligent cooperation of the patient than to the experienced direction of the physician.

A doctor learns early that sick persons are often thoughtless and inconsiderate, sometimes hasty, irritable and uncooperative. He soon learns to control his wonder and chagrin when he discovers that a patient is trying to influence his diagnosis by deliberately withholding important facts about his history or symptoms. He has only sympathetic regret when some misguided soul, resenting the discomfort and pain of his disorder, includes his illness and his doctor in one category of dislike, refusing obeisance to either.

I do not plead that you be superhuman and learn to love the mortal whom you cannot help but associate with sickness and death. The real pity of the uncooperative patient is that he himself actually places a limit on the good the doctor has the power to give.

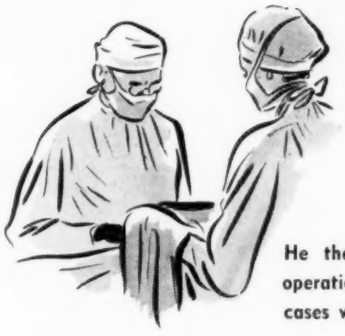
Let me address myself now to your most selfish instincts of shrewd purchasing that you might apply to any other commodity. If you knew that by some miraculous means you could greatly multiply the value of every dollar that you gave your doctor, wouldn't you consider it utter waste to neglect that means? That miracle is to train yourself to be a patient, to think seriously of your own role in the drama of your illness. Once you have given him the responsibility of making you well, he plays the lead with the confidence bestowed by learning and experience. You must play your part to support the lead; remember it is your own play!

Your training must begin with the consideration of how to use your doctor so as to obtain the greatest value out of your contact with him. The first essential is to fit your needs into his program. This may at first seem difficult for you and even cruel, but consider the unwisdom of paying good money for a tired, fagged-out and hurried consultation when a little sensible planning could, for the same price, purchase the quick, clear thinking of the doctor's early morning hours.

A doctor's day is pretty well planned by 9 o'clock of the evening before. He makes rounds in the early morning, first on his very sick patients and hospital cases. He sees next the new cases that have phoned in and then returns for noon office hours. The afternoon is taken up with convalescents and then eve-

Every one wants the doctor to "come right over," so be careful of your reputation for false alarms.

At the opening of the doctor's day, he calls first on his sickest patients and hospital cases.



He then performs the scheduled operations. Naturally, emergency cases would be taken at any time.

ning hours and an occasional evening call—usually a distant one that would have taken too much time from the busy part of the day. This is merely a typical, ideal arrangement. On certain days there are clinic duties or ward rounds, usually from ten to fifteen hours a week, which the doctor contributes out of his hard-pressed time to the poor of the community.

At least 60 per cent of all calls come in as "urgent" and require deft questioning by the nurse to determine their true status. Every one wants the doctor to "come right over," and once you have a reputation with your doctor for false alarms, you have only yourself to blame if he does not drop everything and come immediately when your real emergency arrives. Curiously enough, the typical untrained patient, along with his desire always to have the doctor at once, has an instinctive resentment against every other patient who might claim the doctor's attention at that moment. Of the patient's resentment against the doctor's own personal duties, meals, pleasures, we need not speak, for these are less difficult to comprehend. But the first seems unnatural, and yet it is true. Misery might love company, but not when calling the doctor.

While it is true that there are emergencies when no time must be lost, a tabulation of calls shows that they are relatively few. Yet most frequently, it is the patient's choice alone that makes him purchase a peremptory, ill-planned and hurried consultation, when what he really wants to purchase is a thoughtfully planned examination, early enough in the course of an illness so that the chance of quick recovery is enhanced. Most patients do not stop to realize that a doctor can be in only one place at a time and that they must not wait until the patient has become so ill that he cries for immediate help and turns a routine call into an emergency. Most calls in the early evening are thoughtless to the point of stupidity. Often a patient who has been ill for days or even for years will break into the doctor's dinner hour with the usual "come right over" and utterly derange his evening's work. That consultation is frequently merely a reassurance and a "first aid" prescription; this patient pays for a second visit the next morning which only his own thoughtlessness made necessary.

Night calls do not usually belong in the inconsiderate class; most patients hesitate about calling a doctor at night. Even so, in actual experience, the percentage of real emergencies is smaller than you would think. Now let me tell you a professional secret: If night calls were free, 90 per cent of them would be no bargain. How clever and helpful would you be if you were jolted out of your deepest sleep into the solution of a quadratic equation or the binomial theorem? The next time you buy yourself a night call, make sure that you are one of that really urgent 10 per cent that will thrill your man to alert action.

Assuming now that you are convinced of the dollars and sense unwisdom of the hurry-call as compared to the routine house call, let us compare the house call to the office visit. Most doctors consider the transportation and transportation time in the charge for house calls and therefore charge correspondingly less for a consultation at their office. This saving is not the only or the real advantage of letting the doctor do his work in his own home territory. If his diagnosis is to be derived from facts ascertained in the examination of his patient, it is certainly to the patient's advantage to have that examination conducted where everything is at hand to make it thorough. The special equipment available today is amazing in complexity and number, and a conscientious doctor—such as you would undoubtedly choose—makes a large part of his financial investment in up-to-date apparatus. Some of this is in portable form, when it is imperative to move it to the bedside, but some of it is not. However, even when you think it will not be required, it is greatly for the patient's benefit that the doctor not be at the disadvantage of even an unaccustomed light

Regular office hours are held in the afternoons.

Late afternoons and many evenings are taken up with convalescent calls.

or of inadequate and inexpert assistance. So again we see that it is sound economic policy to attend early to an illness: *to go to your doctor before he must go to you.*

A flagrant and frequent sin of the untrained patient is what I have dubbed the "uninformative message." This results, I think, from a naïve belief on the part of the informant that the more mysterious he makes his needs, the more he will intrigue the doctor, arouse his curiosity and hasten his response!

"Tell the doctor to hurry right over," calls the telephone.

"Just what is the trouble?" asks the nurse with a sweetly professional tone.

"What?" comes back. "Why some one is sick, of course." And often this tone is tart.

Now, even though doctors are stoop-shouldered from the unnecessarily heavy bags they carry, it is literally impossible to carry everything, and frequently the patient suffers from the lack of some special instrument or dressing that the doctor might easily have taken along, had he been told in simple terms that, "Johnny put his hand through a pane of glass and is cut and bleeding," or that "Mother ate something this noon that didn't taste quite right, and she has been sick ever since." The "uninformative message" makes the doctor's problem naturally more difficult, but it is the patient who suffers and sometimes pays for a second call, which would not have been necessary.

The office counterpart of the uninformative message is the uninformative patient; although he is of several types, he is uniformly successful in getting very little for his money. I have met the suspicious, incredulous kind, who comes with an attitude of smug shrewdness, an aspect of, "I'm not telling you anything. I'm paying you to tell me." I suppose a veterinarian knows that situation out of necessity, but the average human medico starts with an immense advantage when he knows the patient's subjective sensations. If you want to handicap your doctor like this, you are far better off if you go to a dog doctor who is used to it!

Some patients are uninformative through fear, fear of ridicule or fear of a dread diagnosis. This patient deserves sympathy and considerate help, for whatever else he has, his fear itself is an added agony, and for it he is entitled to relief. A frank discussion is the first step toward securing this help, for frequently enough, the fear is groundless and far fetched. And when the fear is justified, it can never be too soon to know it!

No considerate doctor will dismiss a patient's mental agony with ridicule, except as a last resort. If ridicule is what you fear, the properly trained patient will detect in himself the cardinal symptom of loss of confidence in his doctor and will do the only sensible thing, which is to change doctors. If you continue to go to a doctor in whom you honestly have no confidence, you are doing both yourself and him a sad injustice and wasting your money to boot.

While we are on the subject of changing doctors, let us consider the cost of that, for there, too, is a financial penalty involved. Once your physician has in his mind and in his records a medical picture of your life, your illnesses, your operations and the idiosyncrasies of your constitution, it is definitely to your advantage that you do not lightly leave him. You will have to begin all over again with another doctor, who will require the time and the contacts to build you up in his mind as a medical entity. Even after a lapse of many years, it is wiser to go back to a doctor who has a record of your case, particularly if you know that he is the type of doctor who keeps painstaking records. There is probably no other single factor that should weigh so heavily in your judgment in obtaining or retaining your medical advisor as this matter of a comprehensive written record. The trained patient recognizes it as a mark of careful medical work and cherishes his contact with the man who *(Continued on page 160)*

The Country Goes A-Skiing

The value of this wonderful winter sport is becoming more widely acclaimed as its rich rewards are heaped on the adventurous spirits that dare the zero blasts. **By NED BOOTH**

IT USED to be "wheels, *or* runners." Now it is both! Dogteams, toboggans, skates, skis—each has contributed toward winter "outdoorness" for outdoor folk. The car or motorcycle need not be put away when snow comes: a little antifreeze in the radiator, a thinner engine oil, a well charged battery, a bit of a tow rope and one is ready to join as driver or performer in the current winter sport ski-joring. With increasing miles of plowed highways, it's a cold day indeed when the motorist cannot find a skier by the way grinningly ready to catch on for a plain "tow!" The correct word is ski-joring, but it all means

The clear, crisp outdoors is one of the big assets of the sport of skiing

the same thing—a modern thrill in the already exhilarating general sport of skiing!

Skiing bids fair to do for us in winter what golf has done in summer, or perhaps even more, for the urge to be abroad in zero weather is not nearly so acute as under the balmy skies of summer. The increasing allure of the red-blooded activities associated with skiing—climbing, sliding, jumping or ski-joring—is of a nature to repay richly the adventurous spirits that dare winter's severities and scoff at the limitations of ice and snow!

Resorts that formerly catered to summer patronage only suddenly change into year round establishments. Skiing, as a vested interest, begins to take the place in America that it has long held in Europe.

Skiing, the sport that makes of summer parks year round centers, the sport that pulls train-loads of weekenders from the crowded cities to the snow-clad country hillsides and winter mountain villages, the sport that adapts itself equally to the supple joints and muscles of childhood and the more staid though still ambitious frames of the graybeards—of both sexes—is outstanding evidence that the physical fiber of the race by no means degenerates.

The history of the spread of skiing in America during the past few years stems from the status of an odd north-of-Europe practice to the chief winter amusement of this continent in all cities and towns having enough snow annually to make it possible. It is a romance of human activity still waiting to be written.

The same primal urge that sent men to wrestle with the untamed wilderness with gun and ax, to dare the elements and defy the might of air and water in airplanes and submarines is precisely the same spirit that today builds towering ski jumps and organizes grueling cross-country races or thrilling ski-joring competitions. Does modern youth, as is claimed, seek thrill? Let it try the feats of the expert ski jumpers, fellows whose distance records stand in hundreds of feet, or perhaps ride the wind on skis behind a low-flying airplane!

It has been repeatedly pointed out that any sport in which only a small number of performers is interested, even though it attracts a multitude of spectators, must in the nature of the thing fall short of the greatest possible value. Ideally, a sport should actively engage a maximum of performers and a minimum of mere onlookers, such as golf.

The worthwhileness of skiing consists basically in this: that it is, above all, a sport for the performer, whatever his degree of skill. Apart from a few audiences brought together for short periods to witness some outstanding championship events, the field of skiing is so widespread and diversified as to locale that no considerable group of mere spectators can for long be interested. Add to that the difficulty of maintaining warmth standing or sitting about outdoors in winter, and the status of skiing becomes clear. It is a sport peculiarly for the active participant.

The wide adaptability of the thing, too, accounts in a measure for the host of men and women, boys and girls who annually cobweb the hills and slopes of park and countryside with their ski tracks and render the frosty air eloquent with their good cheer and the ski-trail warning cry, "Track!"

In skiing, as in golf and other arts, one never reaches the end. There are always vistas of greater accomplishment to be realized, fresh triumphs of skill to be achieved. At every stage, from the ability merely to hike reasonably on a level surface, to the successful negotiation of a pretentious jump or a swift natural hill, there is healthful exercise and pulse-quickening fun, equally alluring to children and to their parents.

Men ski because this machine age reduces avenues for personal physical accomplishment of notable sort in the generally interwoven nature of human social life. Breaking loose from the standardizations of civilized commercial activity that gall the souls of men still geared for individual physical exploit and attainment, men find a healthful outlet for bottled-up physical individualism in the risks of this preeminently "he-man" sport. Such indulgence involves at the same time the elements best calculated to conserve and promote the most virile qualities of human physical and mental existence. The red-blooded robustness of physical fitness and the wind-swept keenness of the mind housed in a body of abounding wholesomeness is merely a happy circumstance of the game.

Women ski because the sport affords, as few others do, a means for retaining the qualities of youth, both physical and mental. Moreover, it is an opportunity for that understanding companionship and practical interest in men and their affairs and activities, which can build the happiest sort of basis for their future relations. Victorianism and skiing for women would not have mixed well: The game is an activity notably of the modern woman, suggesting in its very nature the new place she has created and is developing for herself in the world.

Men find a healthful outlet for their bottled-up physical individualism in the risks of this preeminently "he-man" sport. Skiing affords this vigorous activity in an age otherwise geared for domination by machines.

There is an aristocracy among skiers. The King is King, because he stands a head taller than the others—in skiing ability! Standards are flexible; yet there are well defined and reasonably recognizable degrees or gradations in ability in hiking, sliding, jumping or ski-joring behind horse, motor car, dog team or airplane. The subject in training who masters, let us say, the Christiania turn may feel that he has made quite tangible progress in the art of skiing. Yet there remain many more heights to be conquered.

There is snobbery among skiers, too. The ragged fellow who, on two strips cut from an old toboggan, takes a substantial jump and survives—standing—may be expected to fail entirely to see the potential splendor or ability of an expensively-equipped tyro who has not as yet learned even to fall down gracefully!

Women ski because the sport affords, as few others do, a means for retaining the qualities of youth, both physical and mental. The game is an activity notably of the modern woman.

Ski-joring is a popular form of this sport and can be done behind a horse or an automobile—anything for a tow!

Stephen Deutch

Aristocracy and snobbery are both measured by the single yardstick: skiing ability. Actually, skiing is democratic in the widest sense. There is an introductionless *camaraderie* of the cross-country trail or the ski-tracked hillside that is a delightful thing. The password is merely the outward sign of the skier, actual or potential, the garb of the outdoors or possession of skis or poles.

The relatively low cost of skiing has undoubtedly something to do with the broad development of the sport as a pastime of the people. Compared with golf, for example, ski expense is extremely moderate. The initial cost of skis, poles, special boots and personal clothing may be kept within the most reasonable bounds. Unlike its prototype method of sport locomotion, the motor car, the initial expense *is* the big expense, and there is no "up-keep," unless one figures car fare or an occasional railroad or bus ticket as such.

Is skiing merely enjoying a passing vogue? Will it disappear in a season or two? I think not, and I wonder even that it took so long in arriving. A sport that offers, as skiing does in so exceptional a measure, the opportunity for men and women to display their cleverness and skill and for the women, wardrobes of distractingly gay clothes—such a sport might properly be expected to endure. An evening party on skis, robust exercise in frosty, moonlit outdoors and supper refreshments afterwards—contrast this with entertainment of the nightclub sort, and the odds seem quite plainly in favor of the ski interest. From the standpoint of general wholesomeness and healthfulness, there can be little question.

From the point of view of the practical sociologist, the significance of the skiing vogue—if it be merely a vogue and nothing more enduring—is not a thing to be blinked at. There is of course the possibility, common to all sports, that enthusiasts may bring the game into disrepute by their unbalanced extremes. One performer who overdoes it and gets into the headlines adversely may inflict on any sport a figurative black eye. Newspaper readers know little about the thousands of persons who swim profitably or ski beneficially; but they have uncanny knowledge of the fellow who got drowned or who broke his leg on a ski jump! So internationally widespread, however, has the sport of skiing become that even isolated cases of adverse criticism voiced on an inadequate basis are likely to do little harm now.

That so utterly sporting a game should breed quickly a large and growing body of professionals or near-professionals is to be expected. It is the game's good fortune, due perhaps to some inherent quality appealing to the good sportsmanship of those who play it, that national and international championship events have uniformly been gatherings and demonstrations of and by performers whose character is well qualified to represent the army of worthwhile folk who call themselves skiers.

Yet the appeal of skiing for the masses does not consist in records held by the superperformers. They are remote perfection. As the golfer thinks of a Walter Hagen or Bobby Jones or the bridge player of a Culbertson, so think the rank and file skiers of the makers of fabulous jumps or establishers of unbelievable ski speed records.

Which is as it ought to be. Skiing's popularity exists because it makes all persons play the game. On that basis, it possesses qualities and potentialities which, made broadly operative by ski clubs and organizations all over the country, bid fair to produce a caliber of character in this and succeeding generations to confound utterly those social students who would have us believe that the physical, mental and moral fiber of the whole people weakens and that the world goes backward and not forward.

One of the best known establishments for winter sports is in Sun Valley, Idaho, and it is one which is intimately tied up with the history and development of skiing in America.

The MASTOID MENACE

By LOUIS M. PEARLMAN

"I HOPE it isn't mastoid," anxiously remarks the parent watching the physician press behind the child's inflamed ear during the course of an examination. A clearer understanding of mastoid infections should allay the unwarranted fear associated with them and help in preventing their occurrence.

To begin with, mastoid is the name of a bone, not of a disease. An inflammation of the mastoid bone is called mastoiditis. The mastoid is a part of the temple, or more correctly, the temporal bone and is located just behind the ear. The hollow interior of this bone is divided by numerous bony partitions into irregular chambers called cells. The number and size of these cells vary widely in different individuals. Of all the cells, only one has been given a name, the mastoid antrum. The antrum is a direct continuation of the middle ear and is the only cell present at birth. The antrum is the mother cell from which all the other cells develop later in childhood.

The mastoid cells develop as extensions of the middle ear. They connect with one another through small openings and adjoin directly with the middle ear through the antrum. The delicate membrane lining these cells is continuous with the mucous membrane lining the middle ear. The mastoid cells and the middle ear alike contain air, and both are ventilated through one long, narrow tube, the eustachian tube, which leads from the middle ear to the upper part of the throat just behind the nasal passages.

Functionally, the mastoid cells are unimportant, and they are not missed if for any reason they fail to develop or if they have been removed in the course of a mastoid operation. The importance of the mastoid cells is derived from their proximity to the following vital structures, from which they are separated by thin bone: the inner ear or labyrinth; the dura, the outer covering of the brain; the facial nerve, supplying muscles of facial expression, and the lateral sinus, the large blood vessel in the head which emerges from the skull to become the deep jugular vein.

Let us consider a case of middle ear abscess and mastoiditis from which Jimmy has just recovered. Jimmy had been suffering from a severe cold in the head. The congestion and discharge from his nose were annoying him, and so he blew his nose violently. Jimmy had never been instructed how to blow his nose properly, that is, by holding the handkerchief immediately above the nasal bones and blowing, while at all times keeping the nostrils open. Instead of doing this, he would compress both nostrils and blow hard. The air in his nose and throat would be so compressed that some of it would be forced through the eustachian tube into the middle ear, carrying with it fine particles of the germ-laden discharge.

The beginning of this case and its subsequent history are typical. Jimmy noticed an annoying click in his ear as air rushed into it, followed by a feeling of stuffiness. Perhaps because of the lowered resistance induced by his bad "cold" the bacteria multiplied rapidly in the middle ear, and before many hours Jimmy began to complain of an earache. When the doctor called the next day, he found that the ear drum was red and that Jimmy's hearing was impaired. Because of its short duration and the mildness of the symptoms, the physician preferred to observe the case another day. He left instructions for the treatment of the ear and for the nasal condition which caused the ear infection, in the hope that the inflammation would subside and operation be avoided. The next day, however, the signs of inflammation increased, and it was apparent that the ear infection was not clearing up spontaneously. Under a light anesthetic the physician incised the ear drum in the hope of preventing mastoiditis. The discharge of pus through the opening made in the ear drum relieved the pressure in the ear. Jimmy was soon out of the anesthetic and much relieved from pain.

For the purpose of identifying the organism causing the ear infection, the physician prepared a culture of the discharge for laboratory

Torkel Korling

The mastoid operation is not, as a rule, the dangerous procedure it is popularly conceived to be. The serious exceptions to this rule are the cases which have been allowed to progress until other vital structures have also become infected.

examination. In the treatment of the case the physician is frequently guided by the type of organism found. It is interesting to observe that while bacteria are classified in the vegetable kingdom, their behavior in the body often resembles that of wild animal life. Some types are like rabbits, merely infesting a part without serious consequences; others are like tigers, creeping up stealthily, giving few signs, but are highly dangerous.

Three days later, when his parents observed that Jimmy complained of tenderness as the physician pressed behind his ear, they were beset by unwarranted fear of mastoiditis and visions of a dangerous and costly operation. Anxiously they asked, "Is it mastoiditis?"

Yes, it was mastoiditis, but Jimmy was in no danger. Actually, in mastoiditis cases, there is no reason for the immediate alarm usually felt by the family. This attitude is an inheritance from the time when the diagnosis and the treatment of mastoiditis were in their early stages of development, and disastrous results were common. Today, these results have been radically altered through the present methods of early diagnosis and appropriate medical and surgical treatment. Mastoiditis accompanies middle ear abscesses much more frequently than is generally realized. Strictly speaking, mastoiditis is not a complication of an ear abscess but a part of it, the mastoid cells being in fact extensions of the middle ear. The real significance of a mastoiditis depends on the conditions under which it develops, such as the virulence and the duration of the infection and the general condition of the patient. These are the important factors which determine the course of an ear and mastoid infection. In Jimmy's case these factors were favorable.

As to the need for a mastoid operation, there were no indications that Jimmy would require

an operation. In most of these infections the pus drains off through the eustachian tube and through the opening made in the ear drum, and the patient recovers without a mastoid operation, just as most acute sinus infections drain off and clear up without operation. With rare exceptions, it is not a case for surgery as long as the infection is limited to the mucous membrane lining the cells and as long as the underlying bone remains intact. Should bone destruction set in, it would ordinarily occur in about two weeks after the onset of the infection. Even these cases should not be regarded with undue anxiety, for the mastoid operation is not, as a rule, the dangerous procedure it is popularly considered to be. The serious exceptions to this rule are usually those cases which have not been under careful observation and have been allowed to progress until one of the vital structures located in this region has become involved in the infection. It should be pointed out by way of comparison that the mastoid operation is no more serious than the appendix operation, which is generally accepted by the family without undue alarm.

Jimmy's infected ear followed an uneventful course to recovery. Ten days after the onset of the infection there was no tenderness in the region of the mastoid bone, and the discharge of pus from the ear began to subside. Ten days later the perforation of the ear drum was healed, and Jimmy returned to school with hearing unaffected.

Peggy was suffering from a rather severe case of measles. Her nose was clogged, and her throat was inflamed. Unlike Jimmy's case, in which the infection was forced into the middle ear by improper blowing of the nose, the infection in Peggy's case was not preventable. It made its way by continuity through the lining of the eustachian tube from the inflamed throat into the middle ear. From the middle ear, it quickly spread to the mastoid cells, causing mastoiditis.

The course of her illness during the first week was similar to that in Jimmy's case. Peggy's resistance, however, had been considerably lowered by the attack of measles, and the ear infection had been caused by a virulent organism. Instead of the condition improving, the profuse discharge of pus continued, and tenderness over the mastoid increased. It was apparent that drainage was inadequate and that pus was being retained in the mastoid cells. Two weeks after the onset of the ear infection, an x-ray examination revealed destruction of bone and confirmed the physican's opinion that Peggy had developed a mastoiditis requiring surgery. In the operation, the abscess in the bone was opened and the infected cellular structure cleaned out. The honeycomb formation of the mastoid was thus converted into one large cavity connecting directly with the antrum and middle ear. Efficient drainage of this cavity was established by leaving a temporary opening back of the ear. Peggy made an uneventful recovery, and at the termination of the quarantine period for measles she returned to school with hearing unimpaired.

The facts which were brought out in the preceding discussion of *acute* ear and mastoid infections should allay much of the exaggerated fear which often hampers the rational treatment of such cases. In *chronic* ear and mastoid infections, however, the tendency is to underestimate the consequences. Because the symptoms are usually mild, chronic ear infections are often neglected until signs of danger appear.

Chronic infection of the middle ear is frequently accompanied by chronic infection of the mastoid bone and is generally referred to as a chronic discharging ear. A chronic infection is one in which the invading organism and the defensive forces of the body are about equal; neither is able quickly to overcome the other. It is not unlike a war between equal forces, after settling down to the stalemate of prolonged trench warfare. Such an ear infection may last for many years. Although the signs of inflammation in a chronic discharging ear are relatively slight, the destruction of tissue slowly continues, and the part of the hearing mechanism which is located in the middle ear—ear drum and ossicles—is gradually being destroyed. Deterioration of the inner ear also takes place, and hearing is gradually lost. There is always the danger that the infection may reach one of the vital structures located in the region of the middle ear and mastoid, causing serious complications. The significance to health and life of such an infection is evident from the attitude taken by the recruiting office of the Army and Navy and by insurance companies toward an applicant with a discharging ear. He is not acceptable for service with the Army and Navy, nor is he generally acceptable as an insurance risk. When an exception is made, the applicant's rating as an insurance risk depends on the individual case. Unaware of its significance, many patients suffering from chronic discharging ear tend to neglect it and do not consult a physician until they become either annoyed by the *(Continued on page 159)*

By **WEBB WALDRON**

RULING the SHORT WAVES

Short wave diathermy is being used to treat sinus disease. It is capable of producing deep penetration, uniform heating and is readily applied.

"YOU'D BETTER get a shot of short-wave," said a friend of mine when I complained of racking sinus pains in my face.

"Short-wave?" I objected, wondering what radio had to do with sinus trouble.

"It's a wonderful treatment for sinus," my friend insisted.

And he gave me the name of a prominent nose and throat specialist. I went. The doctor examined me, found the sinus draining, then sat me down in front of a polished box that looked something like a radio set. Two long metal arms were pivoted on each side of the box. Each arm ended in a round flat pad. The doctor carefully adjusted a pad to each side of my temples and turned a switch. There was a low humming. After a minute or so, I felt a gentle warmth begin to creep through my tortured face. At the end of five minutes, the doctor switched off the apparatus. My face still ached. "Come back tomorrow if you still have that pain," he said, "and I'll give give you another treatment."

"I'll be back," I answered grimly. I had tried all sorts of things for my blasted sinus—sun lamps, hot applications, cleanings out, and nothing had ever been much good. I had had to grin and bear the torture till it wore off. That this five-minute treatment could have any real effect seemed fantastic.

Yet an hour after I left the doctor's office, the racking pain had vanished. Next morning I woke with the first clear head I had had in weeks.

How long, I asked myself, had this been going on? When I began to look into this healing apparatus that I had never heard of before, I found a radio program advertising a home short-wave diathermy machine, and I ran across newspaper advertisements of these machines. I sent for information and was deluged with booklets. Evidently there was a sizable industry in short-wave machines for use at home.

"Short-wave burns up the accumulated poisons in your system," said one booklet, startlingly. "The inhuman agonies of rheumatism . . . the stiffening deformities of arthritis . . . the wrenching stabs of sciatica . . . the smothering tortures of asthma . . . the lightning jabs of lumbago. . . . Science has found

a proven way of relieving their victims, a remedy so simple and effective as to seem a miracle," said another.

How pleasant, I thought, to have one of these home machines on hand whenever the pain recurred. I called up the doctor who had given me the treatment and asked his opinion.

"I'd steer clear of them," said the doctor. As we talked further, I discovered that I had run into a controversy of considerable current interest in medical circles, with the doctors generally agreeing that short-wave treatments ought not to be self administered.

As I investigated further, I discovered that the medical profession has recently begun to use short-wave diathermy on a large scale. Practically all of the 2,200 American hospitals with physical therapy departments own one or more short-wave machines. There are from 30,000 to 40,000 short-wave machines in use, either by hospitals or by physicians in private practice. The Mayo Clinic has six diathermy machines constantly at work. Denver General Hospital treats 2,500 patients a year with short-wave. Last year a large Indiana hospital gave 15,000 short-wave treatments; New York Hospital gave 60,000 physical therapy treatments, most of which included short-wave. One physician at the Mayo Clinic told me that American physicians give short-wave treatments every year to 300,000 persons!

And all this is comparatively new. Experiments with short-wave for healing began in Germany and France only some fifteen years ago. Just in the past five or six years has short-wave diathermy become a practical instrument in the treatment of innumerable troublesome conditions; only in the past two years has it reached its present enormous vogue. Short-wave in medical practice is so new, in fact, that up to now there has been almost no mention of it in the popular magazines.

Although the machine which soothed my sinus resembled a receiving set, actually it was more like a radio transmitter in its operation. But the electrical energy, instead of being broadcast from antennae, passed back and forth between the padded electrodes as oscillating currents of high frequency. In diathermy, short-wave usually means waves from 6 to 30 meters in length oscillating from 10 million to 50 million times a second. Machines with waves over 30 meters are called long-wave or "conventional diathermy"—a long established method.

Short wave diathermy is applied by another method for treating bursitis of the shoulder muscles.

When the two pads or electrodes of the short-wave apparatus were applied to my temples, the currents flowing through my sinus area encountered resistance and produced heat. The flow of blood increased in an effort to offset the heat, the capillaries were dilated, and waste matter was carried off faster. Healing processes were stimulated.

When heat is applied to the skin by hot applications or a heat lamp, it penetrates some distance into the tissues, depending on the length of application. The familiar long-wave diathermy penetrates somewhat further. Short-wave is believed to produce even deeper heating and therefore deeper healing. Herein lies its great value.

Consulting over 40 leading American hospitals and many physical therapists and general practitioners, I gained a picture of the diverse uses of this new method of healing.

"Better than 80 per cent of sinusitis was definitely benefited," is the report from Grace Hospital, Detroit. "The majority of arthritis cases were definitely helped." A large eastern university hospital says the same of arthritis and adds, "While the majority of acute sinus cases are benefited, there seems to be little improvement in chronic sinus infections." Many other hospitals and private practitioners distinguish between acute and chronic sinus infections—the one is helped by short-wave treatment, the other is not.

"We have found short-wave diathermy most effective in arthritis, bursitis, strains and low back pains," says a midwestern university hospital. Sinusitis and sprains are cited by a large hospital in the Far West as particularly helped by short-wave. This hospital adds that some kinds of arthritis are definitely helped, others not at all.

These conclusions are typical of what I gathered in my survey, the most hopeful of them being that the thousands who have suffered from sinusitis and arthritis and heretofore found no remedy may now get relief in a majority of cases.

On other points, however, there is sharp disagreement. Several hospitals and surgeons told me that short-wave diathermy is of great value in promoting the healing of fractures. Yet others, on the contrary, express doubt of its value here. A prominent New York physical therapist said that in his experience short-wave treatment positively slows down the healing of a broken bone. Some physicians have claimed that short-wave heals abscesses of the lungs. But the majority of medical opinion is skeptical.

I even met a doctor in New York who said that he had successfully treated a bad mastoid infection with short-wave. A woman patient of his, living in another city, was ordered to the hospital for an immediate mastoid operation. On the way to the hospital, she suddenly remembered that her doctor in New York had worked wonders on her sinus with short-wave. She turned around, took a train for New York. Two short-wave treatments, *he said*, cleared up the mastoid, and no operation was necessary. However, I told this story to another doctor, who replied, "One mastoid case may quite possibly be cleared up by short-wave. But it's dangerous to generalize. The next mastoid might not clear up at all, and the results of substituting short-wave for an operation might be tragic."

I have heard medical men insist again and again that short-wave is not a *cure* for anything. It is merely a stout ally of the human body's healing forces. This is a point of supreme importance. Yet the notion that short-wave diathermy is a panacea has already taken root in the popular mind, partly no doubt because of the advertising of certain home diathermy machines—which claim almost everything.

It may be all right to apply short-wave to a pain in the knee; but, of course, the first thing a conscientious doctor does is *diagnose*, and the owner of a home diathermy machine can't do that. A pain in the knee may be due to a sprain, a bad tooth, arthritis or even to cancer.

But even correct diagnosis isn't enough. Short-wave treatment requires mastery of a technic. If the electrodes are not expertly placed, the waves may avoid the very spot that needs the heat and healing. Most short-wave machines have no reliable indication of the amount of current being given for a certain dosage. Therefore in unskilled hands it may cause serious burns. Early in 1940, however, two machines went on the market with meters accurately showing the current dose the patient actually gets instead of merely the energy produced by the machine. If short-wave is applied to a region with poor circulation, and the flow of blood is not sufficiently quickened to carry away the heat, the patient may receive serious, deep-seated burns without knowing it. Since salt water is a good conductor of electricity, the sweaty places under the arms and between the thighs are special danger points for burns. If sudden heat dilates the arteries so much that the capillaries become choked with *(Continued on page 152)*

Bone and Joint Tuberculosis

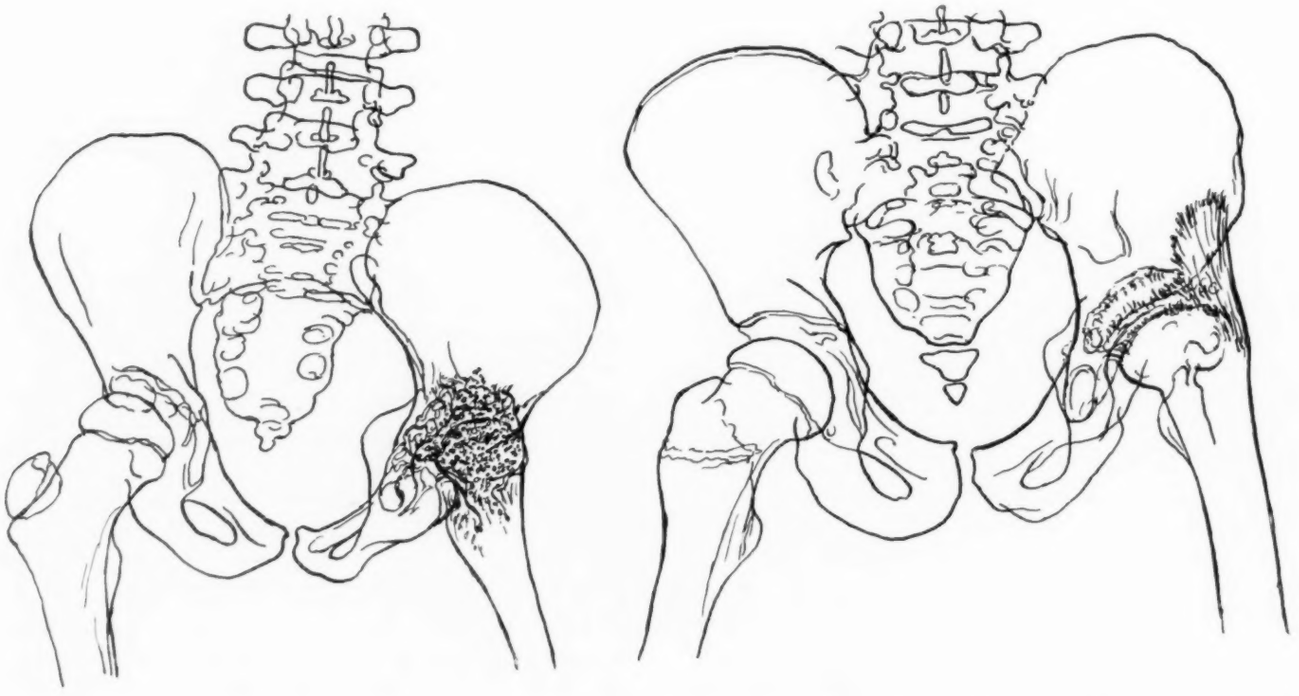
The germs that cause tuberculosis may lodge in places other than the lungs. When they select the body's framework for their home, certain destructive changes occur which cause serious crippling.

By EDWARD L. COMPERE

BONE and joint tuberculosis, a destructive and crippling disease, is primarily an infection of children. In approximately 50 per cent of the cases the first lesion appears between the ages of 1 and 5 years, and in 85 per cent, before 10 years of age.

There are two sources from which the tubercle bacilli, which cause the disease, may gain access to their victims. They may be taken into the body in milk from cows infected with the bovine tubercle bacillus, or they may be transmitted by contact with another tuberculous person, as there are two types of germs which cause tuberculosis in human beings—the bovine and the human bacillus. The human tubercle bacillus usually selects the lung for its work, while the bovine bacillus affects primarily the bones, glands, meninges [in the brain] and intestines. This accounts for the diminishing number of cases of bone and joint tuberculosis in this country, as tuberculous cattle are rapidly being eliminated. In fact, it has been estimated that only about 5 per cent of the total cases at present are of bovine origin.

Infection of the bones is always secondary to infection in another place in the body; but the location of this primary infection is often



Before and after an operation to relieve tuberculosis of the hip and thigh bones. At left, the darkened area indicates the site of the infective tubercles, which at right have been cleared away and bone grafted in their place.

difficult to find. The tubercle bacilli travel from the site of the first infection through the blood stream and may settle in one or more bones. As soon as they do lodge in a bone, the immediate physical reaction is a marshaling of the body's combat forces or inflammation. The infective bacilli are walled off, and a typical tubercle is formed. The bone becomes soft and "cheesy" there, and pus forms. Joint tuberculosis is basically the same.

Thus far in the progress of this disease, few, if any, symptoms have appeared. Attention to the presence of this condition is frequently brought to bear at the time of, or right after, an accident. For example, an active little boy 5 years old fell from the lower branches of a tree and landed feet first. The shock of the fall was felt in the bones of his legs up to the base of his spine. While at the time he suffered no specific injury, he later developed a "waddling gait," as his mother termed it. To the skilled diagnostician, this immediately suggested tuberculosis of the bones, probably of the hip. X-ray pictures confirmed this. The disease was in an advanced stage.

When the bone becomes involved, the muscles contract at the site of the infection, and a natural attempt is made to hold the area immobile. It is for this reason that the boy walked with a "waddling gait," which was erroneously blamed on the fall. If the lesions had occurred in the spine, a change in posture would have been noted. Therefore, the development of symptoms depends on the location of the infection.

There are not nearly as many tuberculous cripples today as there were one generation or even one decade ago. A study of all the cases entering the Children's Hospital of Boston from 1884 to 1930 showed a progressive decrease in incidence of tuberculosis among the total number of patients admitted. In 1892, 77 per cent of the total admissions were orthopedic deformity cases, and 8 per cent of the total were tuberculosis of the bones and joints. By 1920, only 2.1 per cent of the total admissions were orthopedic tuberculosis cases, and by 1930 their incidence had declined to 1.5 per cent.

A prime reason for the decrease in incidence of bone and joint tuberculosis has been the effort of public health officials and public organizations to purify the milk supply of the nation through the testing of dairy cattle and destruction of infected animals.

Other factors which have aided in the reduction of the number of cases of bovine tuberculosis infections are local pasteurization laws and educational campaigns to teach parents that milk for babies should be boiled. This program has helped materially in reducing the incidence of illness, crippling and death from tuberculosis in children.

Although the problem of preventing bovine tuberculosis in the United States has now been solved and the incidence of crippling from all tuberculous infections has been reduced, there are still about 30,000 children in this country suffering from tuberculosis of the spine, hip or one of the joints of an arm or leg. Every one of these unfortunate little victims might have been spared the tragedy of this crippling disease. A few of the 30,000 became infected by drinking milk from diseased cows; but all the rest, perhaps 29,000, were doomed to go through life with a limp or a hump back or to die from complications of the disease because of the ignorance, poverty or selfishness of some friend or relative who had pulmonary tuberculosis. Frequently the source of the infection can be traced to a parent or other member of the child's home.

Efforts have been made in some states to provide sufficient sanatorium facilities to care for all cases of active open pulmonary tuberculosis. As a result, although complete statistics are not available, this isolation of the infected adult has decreased the number of child contacts and accounts for a further decline in incidence of bone and joint tuberculosis. On the other hand, in some of the larger cities, facilities for the sanatorium care of patients with open or contagious pulmonary tuberculosis are so inadequate that many patients are unable to obtain it. Efforts are made by public health officers to warn the other members of a family with whom a patient ill with pulmonary tuberculosis is living, but there are still cases of mothers with open pulmonary lesions who nurse and care for their own infants. Any child so exposed is doomed to almost certain infection, which may result in serious disability, deformity or death.

The next step toward prevention of tuberculosis may be a more widespread and intensified effort toward early detection, compulsory isolation and segregation of all human beings with open pulmonary lesions. Such a program, rigidly enforced, would probably result in a marked reduction if not complete elimination of both bone and joint tuberculosis, as well as all other forms of the disease. Similar measures have aided in reducing the incidence of leprosy, smallpox, typhoid and diphtheria.

NOTE.—Next month Dr. Compere will describe treatment of bone and joint tuberculosis.

A broader understanding of this vital phase of living will help in making adustments. A physician or psychiatrist who is trained in the handling of human problems will be best able to render assistance.

The PSYCHOLOGY of SEX

By REYNOLD A. JENSEN

WE ARE living in an era of progress when concepts and attitudes toward sex are changing with great rapidity, fortunately. Most of us were reared in the day when the subject of sex was utterly tabu. However, through courageous leadership, we have come to the time when we can face it frankly. We have that right, and it will be to our own advantage to learn what we can of ourselves and this great force. Sex properly understood and appreciated can bring untold happiness and joy; misunderstood it can and does bring unhappiness, emotional conflict, discontent, disillusionment and often illness in one form or another.

Those who are working in the field of human relations—ministers, social workers, physicians or more particularly psychiatrists—recognize that ignorance of this vital force is one of the most important causes of unhappiness and maladjustment in the lives of people, young or old. A few years ago a study was made of several hundred case histories of a large clinic in this country. It was appalling to note the amount of unhappiness in the vast number of disappointed persons who had encountered trouble because of a lack of understanding and appreciation of this powerful force which is to be found in all mankind.

But it is not only those persons who come to a psychiatric clinic for help who have difficulty. Some years ago I happened to discuss this subject with a teacher in a large midwestern city. He told me of an interesting incident which had occurred during the previous year.

It seemed that most of the teachers lived at such distances from the school that it was necessary for them to carry their lunches. It was customary for the faculty to enjoy one another's company during the lunch hour. Being a rather resourceful as well as homogeneous group, they decided to put the hour ordinarily wasted to use, so they organized a discussion group centering their attention on the broad subject of human relationships. During these periods of discussion they, most of them being married, began sharing their thinking and experiences on the subject of marriage. Every one seemed to profit by the discussions. The extent to which one member of the group profited was learned at the time they had their final evaluation meeting in the spring. This man was well along in middle life, a college graduate and had been

teaching for several years. With difficulty, due to emotion, he related to the group how grateful his wife and he were for all they had gained from the discussions. His words were, "We have been married for fifteen years. We had heard much of the romantic side of marriage and the rich pleasurable satisfactions to be derived therefrom, but we always seemed to be chasing the Holy Grail, for we never realized them. And now, because of the things learned and the insight gained through these discussions, we are just beginning to live." I have mentioned this in detail to suggest that too often couples go through life searching for the Holy Grail only to awaken to the realization they have searched in vain.

Now regardless of whether we may believe that marriage is consummated by the sanctions of religion or is a legal contract entered into by two persons "for better or for worse," there is one common element which must be recognized, and that is that by such a union a new relationship has been established which carries within itself the capacity for becoming a growing, dynamic, creative experience spelling untold joys and satisfactions or their opposite: sorrow, discontent and discouragement. In this sense, marriage is an adjustment process, which either brings the two persons concerned closer together or widens the gap between them. Havelock Ellis in his book "The Psychology of Sex" quotes Dr. Exner, "Psychologic marriage, marriage as a creative personal relationship, is an achievement between mates and is not necessarily entered into at the wedding. : . . It is often a very slow achievement, years of gradual progress may be needed before a relationship which can be called marriage in the full deep sense is reached. It may never be reached at all."

The adjustments of marriage present an important problem in mental hygiene. The basis for happiness is laid during childhood and becomes broadened, or narrowed, as the case may be, as the stages of growth progress.

In this sense there are, as Karen Horney points out, even on the strict personal side at least three aspects of marriage: the physical relationship, the psychic relationship and what may be called the associational relationship of a life encountered in common.

There are several difficulties we must recognize and surmount in any discussion pertaining to sex. First of all, every one has his own emotional reactions to the word sex, which are peculiar and individual to him. This emotional response may be confusion, anxiety, guilt, curiosity (morbid or healthy), shame or any number of others or combinations of them. Whatever these reactions may be, they can be traced back to former training and experience. This, of course, is true of any and all emotional reactions to the various phases of life; but particularly toward sex and related subjects are we likely to be defensive, ashamed and feel guilty and anxious. No doubt many of us can recall experiences of our childhood days when curiosity concerning things sexual expressed itself in some innocent inquiry, only to suffer rebuke such as "Hush," or, "You musn't talk about such things." All of which served to increase our curiosity because it was frowned on, and we were compelled to seek explanations elsewhere—too often in the wrong places. Then as we grew older many other emotional colorings attached themselves to our thinking. In an ordinary group of average men it would be the exception to find more than a few who have come from homes where sex was treated in a natural, wholesome manner, and one is indeed fortunate if he has had such an experience. The usual lot of most of us was that we were brought up in "innocence," with the hope that somehow we would muddle through.

Then there is the matter of definition. What do we mean by sex? No doubt if each person expressed himself, we would have as many definitions as there are persons present. We can only hope that all would have elements in common. Perhaps we shall be able to evolve a clearer conception of it.

As we study biology and its related branches, we are impressed with one fact—the universality of sex. It is only among the forms of life low in the scale of living things that we find reproduction taking place by asexual methods. These include propagation by cell division, by formation of spores, by the process of budding and others. But curiously enough, we note that even among these more primitive forms of life, usually one celled, two cells will occasionally come into juxtaposition and give of their cell substance to each other, with a noticeable increase in apparent strength and vitality resulting in succeeding generations.

As we ascend the scale of life from these primitive forms, we find all propagation dependent on two factors: male and female. It would seem that the evolution of life as it

exists on the earth depends in some unexplained manner on the differentiation of sex.

With this phenomenon existing in all life it becomes apparent that sex is an extremely natural part of the whole order of living things, and since we ourselves belong to this order, sex is an extremely natural part of us. It can be used for advancing our happiness, growth and development into fine characters and personalities or for thwarting us in our natural right to that growth and development.

There is one essential difference, however, between man and the rest of the world of living things. In the orders below man, sex is primarily concerned with reproduction; it is nature's way of assuring propagation of the species. She has provided that the processes attendant thereto have a pleasurable quality. In most of the species below man nature has set aside the mating season, during which cohabitation occurs. Interestingly enough in this connection, the female repulses the advances of all males except those of her own choice. Mating depends on the consent and cooperation of the female. The genital mechanism of the female in lower orders makes it practically impossible for the male to force the female against her wishes. In this regard she is always the mistress of the situation. In the human female the anatomy of the genital apparatus is such that forced mating is possible. Dr. Richmond in her book, "An Introduction to Sex Education," suggests, "This fact must have had a profound influence upon the sexual history of the human race." Also there is the menstrual cycle in the female of the human species. It is reported that the process of menstruation does occur in the females of the higher apes, but below these orders there is nothing comparable to this physiologic phenomenon.

The essential difference is that, whereas the function of sexual activity in the forms of life below man is primarily that of reproduction, in man cohabitation serves an additional function, namely that of bringing man and woman into a closer, growing, harmonious relationship. Through this process affection for one another is stimulated; admiration and respect are strengthened; the feeling of beauty is enhanced, and dispositions in general are improved.

In the lower forms of life, after a varying period of maturation, the animal is ready for the activities of the adult. In man the process of maturation is protracted. There are several stages in this process of attaining psychosexual maturity. In defining the term "psychosexual maturity" I turn again to Dr. Richmond, who says, "By psychosexual development we mean the development of the thoughts, feelings and emotional attitudes that parallel the physical development of the reproductive system from birth to maturity." While these attitudes may be due in part to instinctive drives, they are due in large measure to environmental, including educational, factors. The end result desired in our growth and development, of course, is maturity: anatomic, physiologic, psychologic, emotional and social. As in the first few weeks of fetal life the developing organism appears undifferentiated with regard to sex, so at birth the psychology of sex is undetermined. However, the normal newborn is endowed with all

At first the infant is largely concerned with getting acquainted with himself.

Then later, boys only play with boys and girls with girls—the homosexual age.

the potentialities of psychologic sex development. This development seems to depend on how the environmental factors shape the innate ones. Thus the attitudes of the adults who surround the child in the early part of his life do seem important.

The first stage in our psychosexual development is commonly called the auto-erotic. During this period, which includes about the first four years, the child is largely concerned with getting acquainted with himself and his body. It is also during this period that he is becoming aware of himself as an individual personality, distinct and apart from others. Specialists interested in this stage of life have divided it into the oral-anal and genital phases. During the former, interest is shifted from feeding to elimination, both of which are pleasurable to an infant. Then many children pass through a stage of infantile masturbation, which usually disappears without too great stress and strain. The chief danger during this time is that the parents may become too apprehensive and worried about it.

As the child grows out of the auto-erotic stage, in the latter part of which he begins to appreciate himself as an individual, we note that he becomes self centered and full of self admiration. This is known as the narcissistic stage. "I," "me," "mine" are prominent, and he is likely to be a trial to his parents for a time. During this period he becomes curious about sex matters and may engage in some experimentation with others of his age—may look at, touch and discuss these differences. This is not surprising. The danger now is that the child may be severely punished, scolded or shamed for this interest, which may produce fear, guilt and emotional conflict sometimes carried over even into adult life.

As the child grows older, it is common for him to seek his own kind. Boys will play only with boys, girls only with girls. Neither will have anything to do with the other. It is the age of boys' gangs, girls' clubs, secret societies, when each sex finds pleasure in the company of its own kind. This is a rather brief stage and is known as the homosexual stage. As we all know, there is a small percentage of adults who never have developed beyond this stage. Environment may play a part in this arrested development.

With puberty and adolescence, the world normally begins to take on new meanings, and new thoughts and feelings enter the picture. This is due to the awakening of the dormant sex instinct. Boys have the experience of seminal emissions and may have sex dreams accompanying them. Girls begin the process of menstruation at this time. Phantasy, emotional instability and general restlessness are quite common. Likewise in this period many of the conflicts centering around sex may begin because of lack of information, misinformation or misunderstanding. Just one example will be sufficient. Many worry about masturbation, which may be indulged in for release of tension. One common fallacy in this connection is the old bug-bear that masturbation produces insanity. The chief harm which may result is the emotional tension or the feeling of guilt associated with the act.

The final stage in our growth and development is the attainment of the heterosexual

During adolescence, however, mutual companionship is enjoyed—the heterosexual age.

Adulthood brings maturity and marriage, with contentment and enjoyment the fulfilment of life.

goal, which includes not only physical and intellectual maturity but emotional maturity as well. This means the discarding and leaving behind of childish and adolescent desires and ways of satisfying them and requires not only the recognition of, but the willingness to accept, responsibilities involved in love relationships, which concern the whole of society as well.

This is the goal we all should attempt to attain. The question is: How can we reach this goal? We recognize that at our age many of our reaction patterns are established; but, while we may not be able to change them completely, perhaps we can modify them to such a degree as to allow us more genuine satisfactions. First, we should be willing to accept sex as a part of our lives, not as something to be shunned or disregarded but as something to be frankly and honestly faced. Whatever our problems, let us accept and face them. Let us then try to learn from others and from books, of which there are many available on the subject, so that we may grow in the appreciation and understanding of this important phase of our lives. Meeting and discussion groups might serve as a further part of a program for clearing up misunderstandings and misconceptions.

Many persons are inclined to think that woman is much different from man anatomically, but let us examine briefly this difference.

After conception, a new life is created. It is impossible to determine the sex of the fetus until six weeks after conception. By this time two ridges of embryonic tissue have formed, one on either side of the spine in about the middle of the abdomen. It is from this tissue that the genital apparatus develops, both male and female from the same embryonic source.

No one at this time can tell which direction growth is to take. Will it be to the male or the female side? Either is possible, for the fetus really holds both within itself. In only a very short time the direction is determined, and if it is to be male, the female elements are suppressed, or vice versa. Note the word "suppressed" is used—not "obliterated," for from this time on, the fetus, then the child and finally the adult carries in his or her own person the markings of the opposite sex. Every normal male has on his body vestigial remains of what might have been female. Man and woman, then, stand in a homologous relationship to each other.

If we could only realize this important fact, much of the mystery and curiosity concerning the other sex would disappear.

Now from a physiologic point of view, there are some important differences. First of all, we must think of the endocrine glands, which have come to assume much importance in medicine and in our understanding of personality. Indeed, they are sometimes called the "governors of the personality." These glands, of which there are five or six in the human body, secrete hormones which influence the rate of growth, the type of growth, and some authorities even contend that hormones influence one's disposition. These glands are also important in producing the commonly called "secondary sexual characteristics." Another significant difference physiologically between man and woman is the menstrual cycle of women. As was mentioned previously, this difference is also unique in that the phenomenon occurs only in the female of the human species and a few of the higher apes. Menstruation occurs in the average female at regular periodic intervals of about 28 to 30 days. Fundamentally it is the shedding of the lining of the uterus, commonly called the womb. This process begins in early adolescence and continues periodically until the onset of the menopause. It is uninterrupted unless impregnation takes place, ceasing during the months of pregnancy. The important thing we should remember is that during the few days previous to and at the beginning of the menstrual period, many women are apt to be easily upset emotionally, high strung and nervous. A little forbearance on the husband's part at this time may avert a storm.

Another important physiologic difference between the sexes is that reaction time is more rapid in man than in woman. It takes but a comparatively short time for the man to become stimulated to sexual activity. With the female it is different. Hers is a slower tempo. She needs time to be adequately prepared. There are several reasons for this: The first is that important glands, particularly Bartholin's and Skene's glands, must be stimulated to secrete a mucoid matter that is essential in the process. Unless this is done successfully, sexual activity may be painful and unpleasant.

One common fallacy in the thinking of men concerning the woman's part in sexual activity is that they take little cognizance of the fact that there is a process akin to the sensation felt by the man. The first experience of a newly married couple is of paramount importance. The ardent young bridegroom, by too rapid progress, may build up barriers that it takes years to break *(Continued on page 155)*

They Walk in Darkness

In this year of census taking, HARRY BEST surveys the situation in regard to the number of blind persons in the United States

THE NUMBER of the blind persons in the United States is steadily, if but slowly, decreasing and has been doing so for some years past. There can be little doubt that the actual number of the blind is less today than it was five, ten or twenty years ago, even considering the slight increase in the general population of the country in that time. From none of the principal diseases responsible for blindness is there evidence of increase; while certain of the leading causes show marked decreases. Ophthalmia neonatorum [gonorrheal infection of the eyes in the newborn], which at the beginning of the century was chargeable with 20 to 25 per cent of the blindness among pupils in schools for the blind, has now been reduced to a small percentage. Trachoma, though still a serious cause of blindness, is unquestionably giving way before the campaign against it. With affections on the order of cataract, glaucoma and atrophy [wasting away] of the optic nerve, there is little ground to assume increase, although there may be few signs of appreciable decrease. Most of the minor affections also register decline. In respect to accidents, at the door of which no small portion of blindness has always been laid, greater care in industrial operations and probably more care in sports and pastimes in which the eye may be endangered have also resulted in a decrease. With more skilled treatment of eye disorders in general and with wider accessibility of agencies to deal with these disorders, we have further reason for expecting an even greater decline in blindness.

On the other hand, a steady increase in the proportion of old persons in the nation tends to bring many more persons within the years of life when eye afflictions are more prevalent. Yet with full allowance for this qualification, we can hardly believe that the amount of blindness thus induced can offset the decrease resulting from medical progress in dealing with affections of the eye or in preventing the advent of blindness.

Fox Photos, Ltd.

The number of blind persons reported shows an ever mounting figure, although it is firmly believed that blindness, as such, is decreasing.

With all these factors before us, we are today confronted with a strange situation. The number of blind persons reported shows an ever mounting figure—a paradox not often met in our statistical history. In 1930, the U. S. Census Bureau gave 63,489 as the number found. This figure is generally believed to be somewhat too small, but at the same time we should be careful not to exaggerate the situation. Considered on a conservative basis, the census figures may not be so far from the facts. In the instructions to census enumerators a relatively strict definition of blindness was fixed; only persons were set down as blind who were regarded by their families, friends and neighbors or by the community in general as definitely blind.

In another tally of the blind taken in twelve representative states at about 1930, higher figures were obtained than those set forth in the federal census returns. If the figures were raised for all the states in the same proportions as for these states, we have 113,152 as the total number for the country. It is to be remembered that these figures for the states were for the most part obtained by agencies engaged in service to the blind, and it has been easy enough to give the benefit of any possible doubts to persons who were not fully blind, or blind by the most exact definitions, but who required attention in practically equal degree. In the National Health Survey conducted by the U. S. Public Health Service in 1936, where a certain number of blind were found for a selected area of the country, the number for the whole country was estimated at not less than 117,000—a figure, it will be noted, not greatly different from the last quoted. In a publication of the U. S. Public Health Service in 1939, the total number of the blind, based largely on the number of blind persons eligible to pensions in certain states, was estimated as 144,000—much the highest figure so far advanced. In coming years it is likely that even higher figures will be offered; we need not be greatly surprised if before long the number is set at 200,000, or even more.

In seeking to explain the apparent contradiction between the increasing estimates of the number of the blind in the country and the fairly clear evidence that the actual number is becoming less through medical progress, there are two considerations to be kept in mind, both to some extent connected. One is that it is extremely difficult to fix a definition of blindness. Different tests have been suggested, to say nothing of different individuals to apply the tests. If we designated as blind only those who are entirely devoid of the sense of vision, there would be very few blind indeed. Persons may be regarded as blind who are without the ability to read ink print held close to the eyes (with or without glasses), to recognize form or color, to count the fingers one foot or three feet away or to recognize the human face. A more precise and a more scientific definition is to regard one as blind who has no more than one-tenth normal vision. If one could only see at 10 feet what he should be able to see at 100 feet, he would have 10/100 vision, or one-tenth normal sight.

On the whole, definitions of blindness are expanding. But even with this, our problems are not solved. There will still remain the matter of borderline cases. With agencies for the blind this has been and will continue to be a vexatious problem. In fact, there are some workers for the blind who are averse to the use of the term "blind" at all; they prefer "visually defective" which would include persons, whether entirely without sight or not, who constitute a special class in the community and who demand specialized attention.

The second consideration to be examined in the attempt to explain the growing numbers reported to be blind lies in the circumstance that we are reaching a more practical understanding of what blindness is and what it means. We are becoming more liberal in our views on the subject. Workers for the blind are more inclined to accept some of the borderline cases, or persons with a remnant of vision which is hardly useful for the affairs of life, especially in respect to industrial employment. In the extension of the pension principle for the blind, which has been so pronounced a movement in this country in the last few years, we may be expected to indulge in even more generous views on the subject—especially in connection with any possible pressure from the blind and their friends on the agencies administering the pensions.

It is thus impossible to say exactly how many persons there are in the United States who are blind. Considering all the factors involved and allowing a reasonably strict definition of blindness, 100,000 might be set as a lower limit and 120,000 as an upper limit, with perhaps 110,000 as a fair mean. If, however, in accordance with present tendencies, we are to include persons with seriously defective vision, the number is increased to an appreciably larger figure. All these matters must receive due consideration when we try to ascertain the number of the blind in the United States.

Elastic Apron Strings

By LUELLA PESEK

THROUGH the living-room window and from the direction of the sandbox came a wail. The side door slammed, and 6 year old Tommy came in, making loud and purposeful crying noises: "Mother, Billy hit me again, and he just laughed, and he's right out there by the sandbox!" The crying stopped with an abrupt gasp, as Tommy entered the living-room and found only his mother's guest. A moment before, his mother had fled upstairs in answer to the baby's crying. Now she was flying down. At sight of her, Tommy resumed his tears, his lamentations, his accusations of Billy.

"Billy again?" Mrs. Brown exclaimed. Excusing herself, she hurried outdoors to the sandbox, whence came echoes of objuration, defense and harangue. When she returned, Tommy looked at her expectantly, as she explained to me, "This poor child is always getting hurt by some playmate. Saturday it was Smith Burns, and Tuesday it was the little Collins boy. But this Billy is a terrific problem. Yet Tommy *will* play with him!"

I have known Katherine Brown since childhood. She was a popular, joyous girl. Her new home is typical of those comfortable, beautiful, even luxurious houses that young, well-to-do professional men have established on the "American plan." Katherine is an affectionate mother; yet I sometimes wonder if the popularity that she enjoyed will also be an asset of her children's life, among their generation. Young Tommy is one of those socially independent children who really enjoy playing with other children; why twist this good beginning into an antisocial set? I suspect that Tommy really enjoys something else besides the companionship and the spirited spats of the sandbox: He also enjoys the dramatic way in which his mother flies to his rescue when he raises a hue and cry. However, if this situation continues, Tommy is going to depend more and more on the presence of his mother, to settle things between him and others. Will the resultant habit of dependence be due to the child's fault? Children's quarrels are short lived. In three or four minutes, the spat between Billy and Tommy would probably have been settled, and they would have resumed the companionship that Tommy evidently enjoys, for, as his mother remarked, he *will* play with Billy.

In the Brown's neighborhood there is another example of a mother's overprotection. In that case, other children have been observed to bait that mother's youngsters to the point when they know that she will flounce out of the house and create a scene as good as a display of fireworks, in their estimation.

Friends are tremendously important elements in a child's life. If your child doesn't always choose for his friends the children you would choose for him, it is not urgent to interfere with the friendship, unless you observe some tangibly undesirable trait in the child himself—mind, I didn't say in the child's parents! Too often, in a neighborhood of generous lawns, spacious amusement rooms and plenty of material for play, we see one or two lonely little prototypes of the Kelveys in Katherine Mansfield's exquisite story, "The Doll's House." If you have never read it, do read it now. And if you have a child so innately kind as little Kezia Burnell, don't discourage her when she brings home some little Kelvey. Recall that "tiny wishbone of a child," little Else, who in one glorious glimpse of the doll's house forgot about the cross lady, smiled her rare smile and spoke one of her rare sentences: "I seen the little lamp."

That supreme virtue of parenthood, the actual encouragement of the child's growth in self guidance, needs practice. Trying to see your child as a person who belongs to his school life, his friendship life as well as to his home democracy, is an exercise in that virtue.

Mothers can strive for it. They can even try to simulate the attitude in times of stress. The ability to see the child in that social framework grows with practice, as does any skill or virtue. Before we forbid our children to play with Billy or the little Kelveys, it is a good idea to try to see what values our children see in these playmates. For every mother knows that children overlook the superficial appearance of other persons within their normal scope, until they are taught by their elders' criticisms to look for deficiencies of manner or dress. In that spirit of freedom from adult apron strings, let them test their social world on their own, without suggestion from adult prejudices.

Psychologists use attitude tests to discover ways of understanding prejudice in its relation to personality. How would you like to try an attitude test on yourself, informally? You might begin by considering your reaction to this challenge from a well known woman author, I. A. R. Wylie, which was published not long ago in *Harper's* magazine. Remember, this writer at 11 years of age had made a bicycle tour of England, alone, and was a regular holder of her own latch key:

> I am arguing for a shorter childhood, and for an education that is adapted to the capacities of the student. I believe that children should fend for themselves as soon as they can stand and coordinate their movements . . . take responsibility, accept the consequences of ill-judged and anti-social action, and face their world squarely, quickly, without illusions. . . . In the middle ages, boys commanded armies. . . . Elizabeth, at fifteen, could express her opinions in Latin, and was fighting for her life in a hostile court. In those days, people had to make the most of their short time. Such men and women are . . . today's crying need. . . . If I had a child . . . I should set sixteen as the limit of my responsibility as a guide and philosopher, supposing he had been self-sufficient for five years, and his education included a working knowledge of the world.

This author would then expect the child to know at least two languages, the world's "politics, finances, morals, and lack of them." She specifies for a son a sort of "*wanderjahr*." Then, if he were brilliant intellectually, she would help him to a university career. But, if the off-spring showed no real intellectual capacity or interest, he would be allowed to follow the real inner guide to a vocation, instead of being forced through the college mill, aptitude disregarded. Today's children slide along the conveyor-belt of our material culture with the greatest of ease. Too often they go to college because their parents think it is only their due to have a set of college-bred children. But the paradox of this system of attitudes is pointed out:

> Too much is expected of children reared in this pattern. . . . The son of the father who has scrimped to put the boys through college is expected to run a bank or a state, regardless of the fact that he has never learned to run himself. . . . We have whole nations of schoolboys stampeded into schoolboy excesses under the leadership of other schoolboys.

How do you react to this point of view? Of course this plea for a short childhood should not be interpreted as a plea for early sophistication, which is a surface adulthood that only gives a semblance of independence. "Our greatest gain is the willingness to concede the successive phases of child life their time, and to respect their specific opportunities," says Adolf Meyer. "Our present danger lies in making a fetish of independence, and over-estimating the child's capacity for self-direction."

Where independence is misunderstood, is considered to be a freedom to do what one will, when and where fancy leads, there grows up the sort of home wherein the mother seems to be at the mercy of her children. She is constantly struggling with disorder. She alternates from anger to overaffection. In desperation for a state of discipline all around, she appeals to the children's affections, still further weakening their integrity. The children are omnipresent, day and night. They won't go to bed on time. They buzz about the guests in the evening, refusing to go upstairs. The 18 months old baby has learned that a clamor will bring her mother rushing in, and so she raises her cry frequently, to amuse herself. She has also learned to associate her bumps and falls with coddling. Therefore, she sees that each fall is succeeded by a sob that brings her mother running. Coddling is more often the tendency of modern mothers than of fathers. Father has the outside world to deal with, and often one word from him is worth a hundred words of admonishment from Mother, for in the presence of this male worker of the world, the child already perceives the conditions of a stricter battle. In his father, he sees the "hard-won delights of independence," and in his father's presence is moved to face the issue in a more grown-up way. Mother may be inclined to err on the side of affection, for in what the psychologists call "maternal overprotection" mothers seldom blunder by intent. The physical protection they owe the young child carries over into years when the youngster should begin to be free to make his own choices and to meet his own discouragements unaided. Thus children are actu- *(Continued on page 190)*

PARENTS, TAKE A TEST!

How do you balance as a parent?

If you would like to test your "balance" as a parent preparing her children for self direction, here is a test constructed in the pattern of those True-False tests of your college days. Try it. Then consult the key, and compare your score with the key score. After that, try the test on your husband, and see how Dad rates in the "balance"!

In the following list of statements, mark with a T all those that express your attitude. Mark with an F those that do not express your views. Then check with the key on page 191. If you get 12 to 15 correct, you are an excellent parent; but you should mark from 8 to 11 right if you would be a good parent. A score below that indicates you should study the subject more.

— 1. To develop self reliance a child should be granted each wish he expresses.

+ 2. The most serious results of parental overprotection appear when the child attains adult years.

+ 3. The child should be encouraged to exercise self direction in proportion to his capacity for it.

— 4. Strict discipline is a more effective aid to social adjustment than a feeling of security in the home.

+ 5. Knowledge of the principles of child development is a practical aid to parents.

— 6. Parents should always feel free to discuss their children with others, with the children present.

+ 7. Children should not be paid for their regularly allotted chores.

— 8. Adults should always intervene in children's quarrels.

— 9. Busy fathers should be excused from taking part in their children's discipline.

—10. Children should not be asked to help with housework unless they express a wish to help.

—11. I am putting off my child's tonsillectomy against the doctor's orders, because the child seems to fear an operation.

+ 12. I teach my children that physical laws work for their benefit.

— 13. Betty, 5 years old, and Paul, 8 years old, are always invited by their mother to help her form a judgment about a new maid.

— 14. I maintain control by appealing to my children's affection for me.

—15. I always try to reason with my 6 year old and my 4 year old children in an emergency.

They named her Demetria

This little girl had courage and heroism—so much of it that she was almost willing to go through life with a face crossed by scars. This poignant story of Deemie, who became Demetria, is told

By LUCRETIA PENNY

THE HOUSE was like Miss Zulie herself, Miss Jackson thought as she sat in the uncomfortable hickory-bottomed chair and watched Miss Zulie's small, wrinkled hands trim the tops of the stalks of broomcorn to an even slant above their twine wrappings. It was a small house, weather-beaten, unpainted, scornful of ornament or foolishness but with a sturdy dignity that even broom-making could not disturb.

"So Deemie told you 'No,' and you're still not satisfied,"

"Far from satisfied, Miss Zulie."

"You still want her looks doctored?"

Miss Jackson said, "I think it's only fair to Deemie." She thought, "As if we hadn't gone over all this last week, last fall, the first year Deemie came here to live!"

Miss Zulie put the butcher knife on the hearth and sat with her hands folded about the broom handle that lay across her knees.

"Run out of diseases to doctor on, I reckon, and now you county healthers has started meddling with folks' looks. Pore folks at that! What difference is looks going to make to Deemie! I got a face would break up a setting hen, and I'm 60 and don't owe nobody money—pore as I am—and I never have went one solid day without some kind of a snack."

Miss Zulie had said this before. Well what Miss Jackson was about to say had been said before, too. She could say it sincerely.

"You have a right to be proud of it, supporting yourself—good times and bad—and now giving Deemie a home."

"It's took work. You've been county nurse here for a right smart time, and you've been in plenty places no better'n mine and found 'em using store brooms, yet to be paid for, and store soap and store quilts and store clothes."

Miss Jackson nodded. "Times are changing."

"Festering!" Miss Zulie corrected. "And now it's store faces, you might say. A new store face for Deemie, just because you and that doctor don't take to the one she's got."

Miss Jackson said, "Don't you think her scars will make things harder for her all her life?"

"Will she be the first that's had it hard? *I've* sure had it 'root, hog or die.' When Deemie was left with no kin nearer'n a cousin, and me the cousin, all I could do was scrouge over and make room for her. First she'd gone to her grandma, and inside of two months her grandma was buried. Outsiders would all been like you, finding fault with her looks. Times got too tough for her pappy way back yonder,

She saw the children coming, so she turned the car around to be ready to pick up Deemie. She was walking alone, ahead of the other children, with her face even then turned to one side.

and he walked out. She sure couldn't look to *him*."

"There doesn't seem to be a chance of even finding him," Miss Jackson agreed.

"The court sure never thought so. They give her to me, and I got court right to put a stop to this foolish talk."

"Yes, but, Miss Zulie—"

"I got a *right*. I don't aim to have to use it. Deemie's got a mighty old head for a 11 year old. I leave her to decide a right smart lot herself that you couldn't risk most young ones with."

Miss Jackson grasped quickly at the straw. With reservations, for which long experience was responsible, she classed this as a hopeful turn.

"You're leaving it to Deemie, then?"

Miss Zulie sighed impatiently. "Seems like you county healthers that have got time to waste stirring up vanity might 'a' been where you could been some help to Deemie and Maybelle the night the lamp fell off the ironing board."

Miss Jackson said, "I wish we might have been!"

"Maybelle wasn't burnt bad at first but she kept fighting to save Deemie and the house,

which for a wonder she done, and then the two of 'em lay in their misery till way up in the next day before anybody come. By then Maybelle was past help, but the neighbors done for Deemie best they could. There wasn't no doctor close—it's awful rough country—and there'd been a big rain, and the creeks was up over the roads."

Miss Jackson, wishing that she need not hear the distressing story again, saw that Miss Zulie's hands twisted about the broom handle while the gaunt old face that had looked stark tragedy in the face so many times in sixty years, was unmoved.

"Deemie's never mentioned it to me but once. Once she told me how that night her mammy kept begging her to turn on the light. I reckon Maybelle was out of her head and thought they was back in town. The lamp had broke when it fell, but Deemie said there was a candle in the kitchen but that she was so scared of fire by then she didn't think she could strike a match."

Miss Jackson tried to keep the picture out of her mind.

"Her burns was a misery, but what worried her worst was she was afraid she couldn't never strike another match. She said it would always shame her that she kept her mammy waiting so long for that light. Finally, though, she struck it, and she was shaking so it went out, and she had it to do over. She's got backbone, Miss Jackson, she don't need you to worry about her face."

"The way I look at it, it's all the more important that she have her chance in life."

"It's just the one side of her face. Her mouth being puckered makes some of her words sound twisty, but excepting for that it's nothing more'n a matter of looks. Deemie, herself's never named minding it."

"It isn't natural that she wouldn't mind it," Miss Jackson said. "And she's not afraid of the hospital the way so many children are. She told me she had pneumonia in a hospital in Birmingham, and it was a good place to be. I can't believe she's afraid of pain, either."

"Still, she told you 'No,'" Miss Zulie said.

"And I can't understand it!" Miss Jackson admitted. "When I told her what Dr. Dalton

Miss Jackson leaned on the gate and went over it all again: what the doctor had said, what the specialist had written and how Deemie's sturdiness and patience would help.

said after he saw her at school the day of the vaccinations, Deemie just said, 'Nome, I reckon not.'"

"Been a good place for you to let it drop," Miss Zulie said, "but it's you and Deemie for it now. I won't put in again more'n to tell her 'pretty is as pretty does and the Lord looketh upon the heart.'"

Miss Jackson stood up quickly and looked at her watch. "Then I'll pick her up as she comes from school, and we'll talk it over again. I don't understand your way of looking at it, and you don't understand mine; but we both want what's best for Deemie, and I hope that somehow we'll get together on it."

Miss Zulie rose and began to gather up the brooms. "You're wasting time," she said, "trying to put vain notions in a level head."

Driving back toward the school Miss Jackson thought of other handicapped children for whose rights she had fought, Mary Lou and Hester and Angie and Ben and Joey and the baby whose father had brought out his Bible to show her that "the Lord wanted Jennie's little foot to be that way, and it would be going against Him to straighten it." Some of the battles she had won, some she had lost; but all had been different, and the memory of none offered her the right words to say while Deemie shook her head, the scarred cheek turned aside, and Miss Zulie stood in the background "not putting in" except to say "pretty is as pretty does and the Lord looketh upon the heart."

She saw the school children coming over the hill in time to take advantage of one of the rare wide places in the road and turn her car around. Deemie was walking alone, ahead of the other children, her face even then turned a little to one side.

She said, "Howdy do," and at Miss Jackson's invitation settled herself on the front seat with her satchel and her willow lunch-basket at her feet.

She did not wait for Miss Jackson to begin the conversation but said hurriedly, "Cousin Zulie lets me keep a banty hen, and last summer's hollyhocks were all mine, and Christmas she gave me a book."

"Yes, she's been good to you," Miss Jackson nodded, remembering what Deemie's life had been before she came to Miss Zulie and understanding that by comparison she had much to appreciate here.

"I've been living with her a right smart time —for me. The longest, I reckon, I ever was settled. Look how long I've been going to this same school! Two years!"

"I know," Miss Jackson said, wishing that she might indeed know what went on in Deemie's mind.

"Cousin Zulie reads her Bible a lot."

Miss Jackson waited, hoping that this unaccustomed rush of words might help make clear things she did not understand.

"She says the Bible don't point out pride to be one of the Christian virtues."

Miss Jackson considered going into the question of pride but decided against it. She brought the car to a stop and said, instead, "Look at me, Deemie."

Deemie swept her shoulder-length black hair across her scarred cheek and turned her head obediently. There were tears on her dark lashes but her violet eyes, the one lovely feature in her disfigured face, were unflinching.

Miss Jackson reached into her bag and handed her a tissue handkerchief. "Unless you ask me to, Deemie, I won't say anything more about the hospital. You'll find a postal card addressed to me in that notebook on the car shelf. Send it anytime you want me."

Deemie nodded, wiped her eyes and reached for the notebook. Miss Jackson, hoping the threatening tears would be out of the way before Miss Zulie could class tears with such weaknesses as vanity, was surprised when an instant later Deemie's voice was steady.

"Papa sent Mamma one from Florida once," she said holding up the card. "It said there wasn't any work in the whole world, but he guessed he'd keep on going, and he asked how was little Demetria."

"Demetria. It's a pretty name."

"It don't go with the way I look. Mamma said she named me after the prettiest lady she ever saw. Then they got to calling me Deemie, and I reckon it's a good thing. I ought to sort of look half way right, if I was going to be Demetria."

Miss Jackson thought, "Here's something we might use." "Demetria," she repeated. "It *is* a lively name. You won't lose my postal, will you?"

Deemie shook her head. "And I reckon I won't use it either. I reckon you've wasted a penny on me."

Deemie was through with words then until she said goodby at Miss Zulie's gate.

Miss Jackson said, "Goodby, Demetria," Deemie smiled, a bit wistfully, over her shoulder.

Miss Jackson, feeling more confident, hoped the postal would come back to her that week. It didn't. On Tuesday of the third week she discovered *(Continued on page 174)*

Edward G. Robinson as Dr. Ehrlich

The Life of Dr. Ehrlich

By
SARA BOYNOFF

WARDS and dispensaries of the Kaiser Wilhelm hospital sets for "Magic Bullets," the new motion picture about the life of Dr. Ehrlich, will remind audiences that the practice of medicine has undergone great changes since the days of 1880.

Edward G. Robinson, who plays the role of the great German scientist in this picture, will help reconstruct these scenes, exact duplicates of the original Berlin institute.

The great clinics and wards of today's hospitals, in which America maintains the highest standard of any country in the world, differ radically from those early, dreary institutions where the rich as well as the poor were cared for. Today the passionate duty of every doctor, nurse and orderly is cleanliness in the relentless fight against infection.

Yet, in Ehrlich's day, even the most orderly hospital failed to maintain a rigid standard on this score, despite the fact that the germ theory of disease had already been accepted by the scientific world. Littered floors in the wards and even in the operating room were not uncommon, and modern nurses would shudder at the state of the bedding and linens.

Today, when "scrubbing" for surgery is a ritual practiced by all operating participants with religious zeal and when at least half an hour is required to wash with soap and antiseptic, to don gown, mask and gloves, it comes as a shock to realize that in Ehrlich's day these precautions were merely casual.

Pictures of operations in those days, supplied by the studio research department, show the floor of the room almost dirty, the doctors dressed in their ordinary clothes with only a loose white gown over them and their sleeves rolled to their elbows, their hands bare and the important mask missing.

The only anesthetic then used was chloroform, and the patient was strapped to the table, while assistants held his arms and legs. In this old photograph a man, innocent of gown, is seen standing at the back of the room giving the effect of having wandered casually in to observe the operation. Today, such a thing is unthinkable.

In one sequence Ehrlich walks through the children's ward where the little victims of a terrible diphtheria epidemic are under observation. Today these wards are strictly "isolated"; yet in the old Kaiser Wilhelm hospital they were separated from the other corridors only by a glass door which bore the sign *"Unbefugten is der Eintritt verboten."* (Entrance forbidden to the unauthorized.)

The dismal, grim and gloomy atmosphere of these badly lighted and ventilated wards has almost nothing in common with today's hospitals.

The constant vigil carried on now for any signs of unsanitary conditions is administered with military precision and thoroughness. Americans, especially, have been accused of being almost maniacal on the subject, but these duties are automatically performed.

In Ehrlich's day, operating rooms were cleaned merely by running a hose through them. If these chambers, where the doctor's most crucial duties are administered, were so cursorily cleaned, imagine then the state of the wards and corridors.

How great have been the strides of modern medicine will be clearly thrown into relief by the hospital scenes in "Magic Bullets." Not only doctors but other members of the audiences, too, will be able to compare their own fortunate advantages to the crude practices of those pioneers who were just beginning to realize the paramount importance of the simple principle that today is an absolute imperative—cleanliness.

Dr. Ehrlich's laboratory in the Koch Institute in Germany is reproduced for the motion picture depicting the life of this great scientist who discovered the specific cure for syphilis.

Shown in the motion picture of Dr. Ehrlich's life story is the diphtheria ward of the Kaiser Wilhelm hospital. It is characteristic of the best care available at that time.

Wonder Stories of the Human Machine

***The fuel system of an automobile is compared to the digestive system of the human body in another article of the series by* GEORGE A. SKINNER**

WHAT a thrill to visit the annual automobile show and see all the new models. We may be attracted most to our favorite make, but all are interesting for their beauty of workmanship, their trim lines for speed and power and the remarkable brilliance of their finish. We test them out for comfort and for improvements in ease of control, and then comes the almost inevitable question, "How many miles per gallon do you expect this model to give?" Here is a practical question, based on the knowledge that all machines require fuel and sometimes a great amount of it. Fuel costs money; hence we wish to know something of the running costs of the car before we make a change. Efforts are constantly being made to reduce the fuel consumption and increase the car's efficiency, and great progress has been made in that regard. The automobile engine is a heat engine, and the energies of the human machine, as well as all other sources of power, return ultimately to heat.

As the automobile and human engines must have fuel to keep them running, an inquiry into the sources of this fuel, its storage in these machines and how it produces power may lead us to more economical use of the fuel. It is, therefore, highly important for the most efficient use of our machines to know what fuel they require, how to supply this fuel to the best advantage for power and economy and how to avoid the waste of expensive materials.

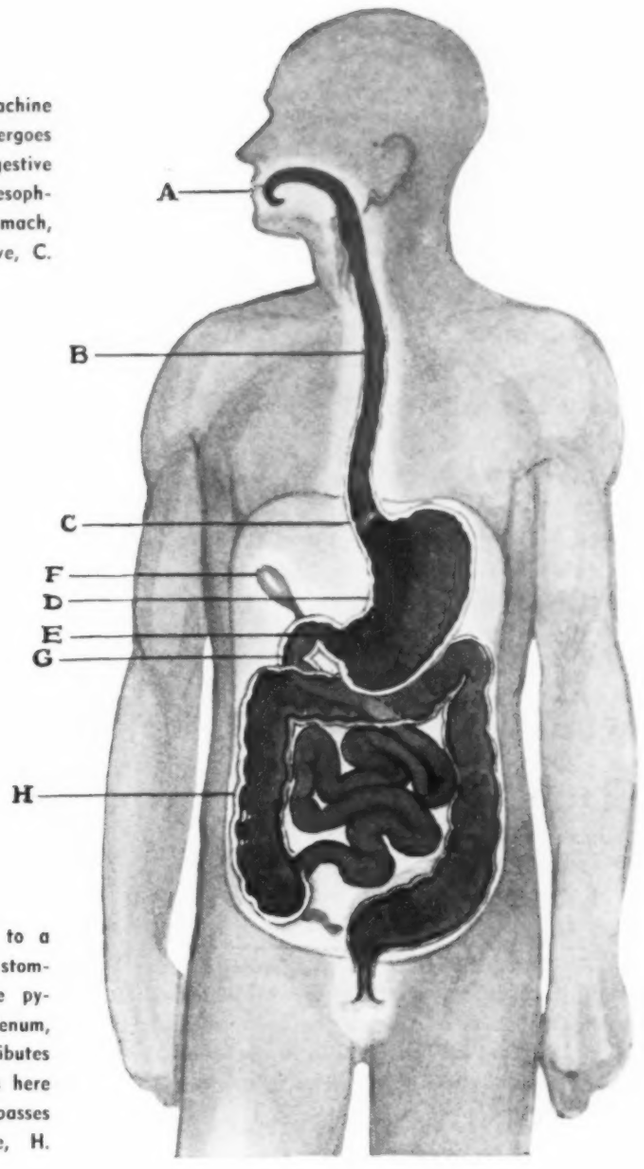
As in our other comparisons of the human machine with the automobile, there are many points of similarity; but exact parallels are not always possible, because in the human machine there is a large element of automatic control which must be extraneously supplied for any automobile. But the many similarities make it easier to follow much that takes place in the combustion of the fuel to transform it into power.

Both the automobile and the human machine have fuel tanks, in which a supply of fuel is stored until required by the engine. In many of our cars there is a reserve tank in which a certain amount of fuel is held for emergencies. For the human machine, there is rarely any neglect on the part of the owner in providing for his fuel tank; but there is a reserve —in fact several reserve tanks—to tide him over any crisis where fuel might not be available for some time. We must recall that with the human machine there is one marked difference from all other machinery: It never stops running until it is through for good. When our autos are parked, the fuel outgo is stopped. To be sure, if they are laid up too long, certain deteriorations take place: The batteries run down, the finish becomes dingy, the upholstery is likely to be attacked by moths, and the tires decay. But these changes are slow, and we ordinarily think of a car at rest as consuming nothing. Not so with the human machine. At rest the consumption of fuel is much lessened; but it is always going on, so since some emergencies do call for long sustained drains on the fuel with little chance for replenishment, the reserve supply must be extensive.

There are further similarities. We may fill the tanks to capacity and prevent losses by proper coverage of the filler openings. The tank is connected to the engine by a system of tubes through which the fuel is properly distributed. To be of use to the engine the fuel must pass through a process to make it highly combustible. In the car we have the carburetor, which furnishes the proper mixture to the cylinders. In some cars, such as racing cars, a carburetor is furnished for each cylinder; this more nearly resembles the human machine, which has a similar system of carburetion to prepare the fuel for use.

The wise driver takes certain precautions before starting on a trip: He fills his gas tank,

The fuel for this human machine enters at A, where it undergoes the first portion of the digestive process; it travels down the esophagus, B, and enters the stomach, D, through the cardiac valve, C.



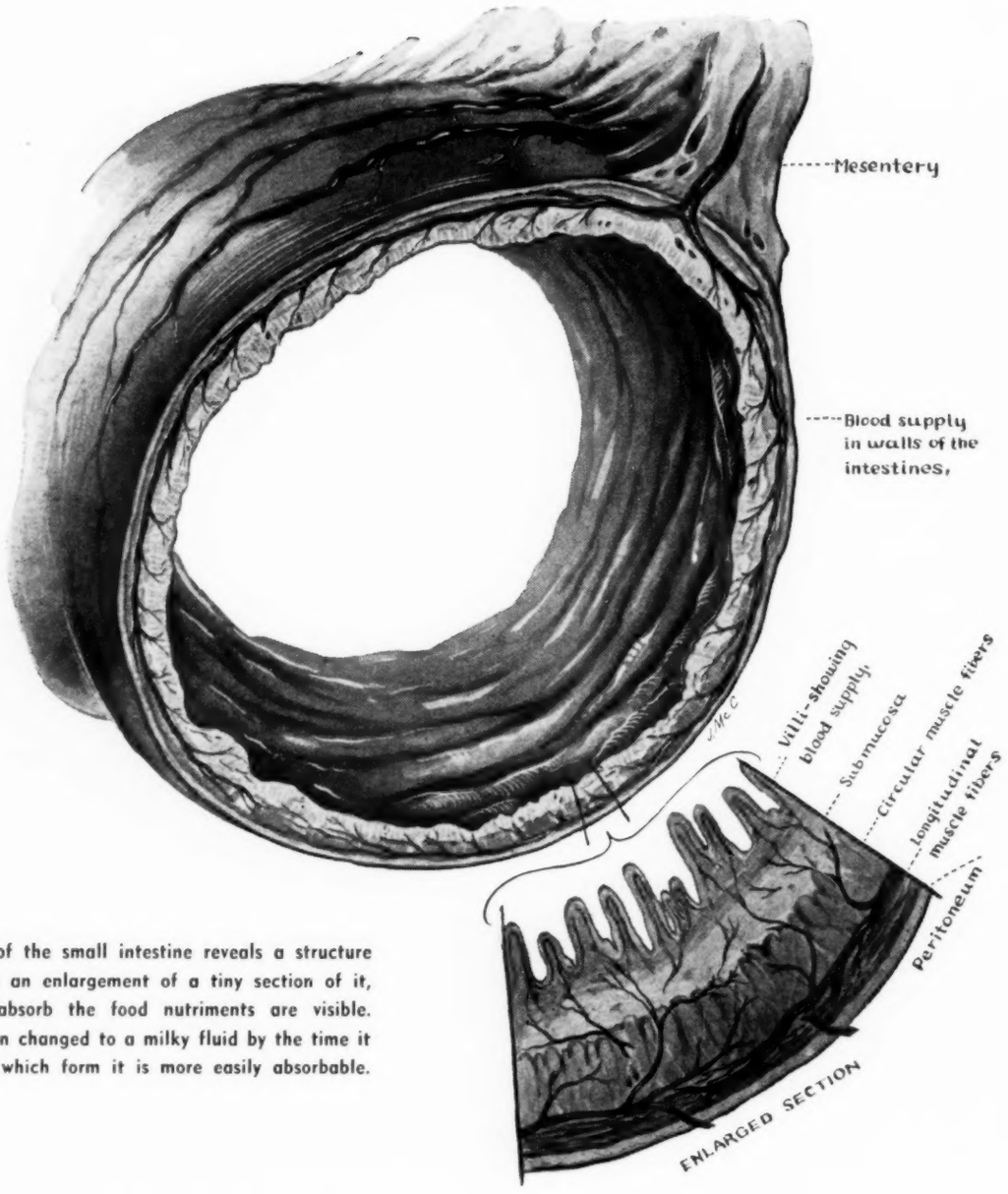
After the food is reduced to a rather thick liquid in the stomach, it passes through the pyloric valve, E, to the duodenum, G. The gallbladder, F, contributes bile to the digestive process here before the milky fluid passes on to the large intestine, H.

changes his oil, adds water to the radiator, checks the battery and fills the tires to proper pressure. The human machine likewise starts the day at the filling station. There is another slight difference here. The automobile's tank has a definite and limited capacity through the inelasticity of its metallic walls. The human tank, the stomach, is not so limited but is elastic, and its capacity varies greatly. But with the average person the amount consumed is astonishingly constant. Although there is no automatic gage to show that the tank is nearly full and that it is time to slow up on the intake, we know it through the sensation communicated to our consciousness by the distending tank and usually stop in time. Of course on special occasions, we sometimes do tax the elasticity of this extremely accommodating tank of ours; but we always know it and sometimes regret our carelessness. In general, however, the stomach is about properly charged for the day's work, usually at several intervals, depending on the customs of the locality in which one resides.

The filler mechanism for the car is simple. Not so with the human machine. In the latter case there is not the simple fluid, which changes by the addition of air and reduction to a fine spray, that will do all the work. The fuel for the human engine is tremendously varied, as it is made up of countless combinations of chemical elements, which must be broken up into simpler forms to become usable. So the process is necessarily elaborate.

Not much of the crude material as it comes from mother earth can be used in any engine. Usually it must be refined and changed in a number of ways before it is ready for final transformation into power. So we find it expedient for the health and safety of the human machine to prepare most of our food by some process, cleaning, cooking and the like. We will assume in this discussion that the fuel is ready for use by the machine and start at that point.

To follow the process more easily, we must pause a moment to see what the fuel system has for its raw material; hence what changes are necessary to make it available for the many



A cross section of the small intestine reveals a structure such as this. In an enlargement of a tiny section of it, the parts that absorb the food nutriments are visible. The food has been changed to a milky fluid by the time it reaches here, in which form it is more easily absorbable.

needs of the human machine. Generally, three classes of foods are mentioned, now familiar to every one. The proteins, exemplified by meat and eggs; the sugars and starches (carbohydrates); the fats, such as butter and lard, and a number of minerals and vitamins are a necessary part of the diet. All are concerned in the fuel supply of our human engine.

Except for the liquid parts of our fuel or diet, there is a more or less prolonged delay in the mouth, where the first part of the changes takes place. A great part of our fuel is in a solid form and cannot be so utilized. It must be ground up so that the chemicals to transform it may come in intimate contact with all parts of it. The grinding process is done by our teeth. Here the materials are cut by the incisor teeth, broken down by the grinding action of two opposing beautifully fitted surfaces, the molar teeth, and mixed with a fluid that makes it slippery at first and then dissolves it, the saliva, and at the same time begins to change it into other forms to use later. This fluid, furnished by three pairs of small tanks, the salivary glands, is remarkable. These glands are really more than tanks, for they manufacture as well as store materials. If the food is excessively dry, the saliva is thin and watery, and the slippery or mucous part does not flow until the fuel mass is well mixed with fluid so that it is wet. If the fuel is already soft and moist, only the thicker, slip-

pery part is usually produced. No waste of effort here.

This breaking or grinding of the food is of importance in more ways than just the mechanical one. In passing the food around various portions of the mouth by the action of teeth and tongue, it is brought into contact with the little nerve plates or buds which tell us what we are tasting. Odors of the food are necessary in determining the taste and greatly assist in forming the pleasant sensations of eating. This sensation seems to have an important part in the function of digestion, not only making the food pleasant to take but preparing the system ahead for the oncoming materials.

The traffic control is remarkable, too. To the parts of the system that will next receive the fuel are sent hurry-up calls; while the more remote parts get much more leisurely notice. The liquids are put through on a cleared highway without delay and notice for them is of an emergency nature. In some cities the traffic is much like this; the fire department and ambulances go through regardless of traffic lights, while the rest of us move along with the controlled traffic. However, if we know the cadence of the lights and maintain that speed from the first, we can often make every green light and thus greatly facilitate our passage through the congested portion of the city. This digestive control is also coordinated, so that as the food mass is finished in one portion of the system and ready to move forward, everything is prepared for it, green lights set and all obstructions to traffic removed.

The amount of time that the food is chewed, or masticated, depends on the nature of the food and somewhat on the habits of the individual. Unless one has acquired the "bolting" habit, the food is ground up to a satisfactory fineness, and this is determined largely by the posterior part of the tongue. If there still are parts of the mass that are too large for comfortable swallowing, they are returned to the teeth for regrinding. There is a good deal of fad about prolonged mastication, for after the food has been ground enough for chemical changes, any further work on the part of the grinding machinery is wasted. It does no harm, but it takes a lot of time.

By the time the mouthful of food is well lubricated and properly ground, it has been acted on by the chemicals in the saliva, and the starches are partly changed to sugars; the fat particles have been ruptured, fiber masses broken down, and it is ready to swallow. This swallowing process seems simple, and we do it entirely without thinking; but it is a complicated and wonderfully coordinated series of muscular actions. The only time we really are conscious of what is going on is when something fails to act at the proper time, usually due to a semiconscious interference on our part with the mechanism.

The food must pass over the voice box or larynx, which lies at the beginning of the breather or respiratory system, as we have seen, and any food going into this wrong passage might lead to serious consequences. If through accident, food particles do enter the larynx, there is an instant spasm of coughing, sometimes so severe that breathing is seriously interfered with. This spasm usually results in expelling the foreign body, or it passes on into the bronchial tubes. This is always a serious accident calling for prompt and efficient treatment. These accidents are almost entirely eliminated by a beautifully designed cover that completely closes the larynx at just the proper time, and the food glides over it into the pipe connecting to the stomach, called the esophagus or gullet. But the fuel does not drop with a bang into the tank but glides easily and slowly with no jolting whatever. A valve opens to let it in easily, but it cannot readily get out through the same opening. The action can be reversed, and we have seen that under conditions of emergency, this may take place and the tank be quite suddenly and forcibly emptied. This vomiting is sometimes necessary to save life or to avoid damage, though it is never a pleasant process. It is much like an emergency stop.

The stomach resembles a bag or sack and is in a much more vertical position when in action than we usually think of it. The structure is highly muscular and elastic so that it may be much distended. Its action starts usually before the food reaches it, and the muscles slowly contract in a wavelike manner, beginning at the upper end where the food enters and moving it around, mixing it thoroughly. At the same time, it begins to supply a dilute acid and a chemical, pepsin, and the combined action of the acid (hydrochloric acid) and pepsin causes a marked change in the proteins or albumins of the food. All through the digestive tract there are curiously powerful substances that are called enzymes, most of which require an alkaline solution to work properly. But this enzyme of the stomach, pepsin, is an exception and works with an acid. These enzymes are also classed with peculiar material of the chemical world called

catalyzers. They have the unique property of causing great activity of many substances and at a much higher speed than usual. But the most curious part of it is that they do not seem to do much themselves. Like Tom Sawyer, they inspire every one else to work hard but sit mostly on the side lines and look on. Sometimes these substances are used up after a long period; others seem to continue actively inspiring the different substances to hard work and themselves remaining unchanged. How they do it no one knows, but they are most valuable in the economy of the human machine.

Before the food mass is ready to pass from the stomach, it has been reduced to a rather thick liquid, having been churned around until most of the material is well broken up and mixed with chemicals. Then the muscles force it to the lower and smaller end of the stomach, and another valve opens to pass it on to the beginning of the digestive tube, the small intestine. The first section of the tube is called the duodenum, because when first measured it was found to be about the length of twelve fingerbreadths or about 8 inches. In this "little stomach," as it is sometimes called, a great deal happens, for it is extremely active chemically. Here the secretion changes from acid to alkaline by the addition of the juices from the pancreas and liver. There are a number of active ferments or chemicals in these secretions, and they start changing the fats and those starches and meats which have not been completely finished in the mouth and stomach. We must not overlook the fact that a great many bacteria are taking part in the process by this time and have quite an important bearing on the results. We are likely to think of bacteria as being harmful, which many of them are; but the much greater number are useful, or at least harmless, as most larger plants are useful in our economic life, and only a few are poisonous or detrimental.

As the digestive processes are nearing completion, a most fascinating and remarkable action begins on the digestive material. This is now about ready to be used by the machine, and the whole mass somewhat resembles milk, both in color and consistency. This is known as chyme and contains practically everything needed for the maintenance of the human machine. But the distribution of these elements is one of the wonderful parts of the process. At this portion of the small intestine, there are numberless little finger-like projections on the walls, which separate and absorb the useful materials from the wastes. This material passes into the large veins, and from there through the circulation to the smallest blood vessels or capillaries. Here the various body cells select what they need, much as the men on the assembly line at an automobile factory select the parts each needs for his particular job. If the diet is properly balanced, all the elements necessary for proper rebuiiding of the parts destroyed by usual wear and tear of daily existence are replaced. The ordinary energy requirements are met, and a surplus of energy is stored for emergency use.

As the fuel moves along the pipe line or intestine toward its end, there is little left except useless residue, and this is held at the lower end of the gas line, or large intestine, until a convenient time is available for its disposal as exhaust or waste.

The reserve storage tanks serve a most useful purpose in the various emergencies that come into the life of every machine, human or metal. While we are not likely to overlook the ordinary needs of the human machine in daily use and sometimes are a bit overgenerous in the amount of fuel consumed in proportion to the mileage delivered, there are times when conditions are such that the demands on the machine are extraordinary, and sometimes with this unusual demand new fuel is not available. In the human machine there is a safety factor that does not exist in any other machine; if there is trouble, the fuel tank may refuse to receive fuel, and we say that the appetite is lost. Then the machine calls on the reserve fuel supply, there being many such reserve tanks available to furnish fuel for a considerable period of time, if necessary. The emergencies could be various diseases, during the course of one of which the machine is usually laid up for repairs. But even though quiet, the engine is still running and sometimes much faster than usual. A higher temperature is often maintained so that much fuel is still necessary. The emergency fuel is mostly stored in the body fat, and there are few of us who do not carry sufficient to last a number of days. When the regular fuel supply is cut off, the body utilizes this reserve supply, and the fat is gradually burned. It is high in energy, hence is relatively slow in disappearing. We have all observed the loss of weight during sickness, either on ourselves or friends, and sometimes it is very apparent from day to day.

The liver is also a storehouse for energy in the form of various sugars. All body cells probably contribute somewhat to the emergency supply for a time, *(Continued on page 178)*

Running Away

By HERMAN M. JAHR

FEW PARENTS at one time or another have not experienced the distraction associated with the failure of their child to return home at his accustomed hour. As the ticking of the clock continues, the suspense increases, and the fear of uncertainty gives way to terror and panic. Relatives and neighbors are called in vain. "He has not been here lately," is the discouraging reply. Often the help of the police department is enlisted. As a rule, however, the family becomes happily reunited before dark. The child may have a valid explanation for his tardiness, or he may just be puzzled over the excitement. But judging by his repetitions of this act, one concludes that the alarm failed to impress him. Indeed, if it had any effect at all, it was only to lend importance to what appears to him an innocent indulgence. The time element holds little fascination for young children, and unless they have been trained to punctuality their return on an allotted hour is more in the nature of chance than of design.

There is a roaming habit more or less prevalent among older children and adolescents, which has a distinct significance, involving as it does certain psychologic phases which we must understand if we are to cope with the problem intelligently. Regardless of the underlying cause operating in the individual case, every youngster who leaves the protectorate of his parents exposes himself to certain risks. While the problem is not always serious, dismissing it as unimportant may at times be disastrous. The physical dangers, such as inclement weather and speeding automobiles, the possible moral and social pitfalls are factors too obvious for further emphasis.

Children who run away do so for a reason. To be sure, the reason is not always simple and is seldom clear to their elders. Parents are as a rule too remote from their own childhood to appreciate the thought processes of the growing youngsters: such as his efforts to express himself in an environment over which he has comparatively little control and his urge to exercise his curiosity, his imagination and his love for romance and adventure in a world charged with innumerable stimuli and a multitude of restrictions. Also, there are thousands of children to whom present surroundings appear burdensome and who therefore look to the distance as a place where life situations may be more agreeable. Some children become tired of parental oversolicitude; others leave home and fireside out of fear of facing reality. Some learn their lesson on their first attempt. Others, alas, acquire the roaming habit and in spite of want and inconvenience indulge in periodic escapes until they come in conflict with the law.

Freddie came to my attention about ten years ago when he was 13 years old. He was the son of a minister. At the age of 4 years, he left the house one morning to visit a neighbor. He was found by police late that evening in a municipal park some 3 miles west of his home. The second episode occurred a few days following his entrance to kindergarten. A passing motorist picked him up beyond the city limits and deposited him near a farm house 5 miles west, which the boy indicated as his destination. He was brought home by a deputy sheriff early in the evening. On his third attempt several months later the agent at the railway station recognized the boy as a run-away and turned him over to the police. At the age of 11 years Freddie disappeared, according to his mother, "for good." It was on a hot July morning when he "took to the road,"

walking east. He was given a lift by a truck farmer. The boy introduced himself as an orphan, unable to continue living with his cruel foster parents. These people, he is said to have complained, were atheists, bootleggers and drunkards. His exact destination he did not know. He guessed that being pious, strong and willing he would experience little difficulty in earning his daily bread. His companion concurred in the plan, and the boy remained on the farm over a week. His host's credulity was shaken by a neighbor who produced a belated notice of the disappearance of a boy corresponding in description to the young "farm hand." By that time, Freddie was only too happy to return home. He had begun to feel homesick, and the blisters and calluses on his hands added misery to insecurity. "Picking vegetables is no cinch."

"One would think that the boy had learned a lesson. He hasn't," says the mother. "Every few weeks he just picks up and goes. We are used to it now. We did not worry any more until this happened." The last adventure was indeed proper cause for uneasiness. Not content with mere running away and trusting to good Samaritans for sustenance, the little fellow became involved with two older boys in petty stealing. Because of his size he was used, on several occasions that he himself admitted, as the inside man. In each instance he was lifted up and deposited in the store through the transom, the field having been prepared during the day by the older boys. Once in, Freddie's job was to open the door and admit his "partners."

The first few events were smooth and "profitable." In addition to a few packages of gum and as many chocolate bars, Freddie received as his share a sum varying from 10 to 60 cents. The last "job" was to net a sufficient amount of cash to enable all three of the boys to go to a distant metropolis to see the "world series." But somehow the plans miscarried. Whether through carelessness in the preparations or through vigilance of the owner, the transom

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was found bolted. It was a dark night, but not too dark to break a window in the basement. As soon as Freddie was dropped in, so it appears, the boys heard footsteps and dispersed. Our "inside man" was found the following morning sound asleep among the crates and boxes on the premises. The merchant, a kindly and intelligent man, recognized the culprit and summoned his father to get him.

Freddie was an amiable little fellow. Alert, but restless, he was dissatisfied with life. It was full of tabus, duties and responsibilities. The boy was expected to sit quietly in the house and maintain strict ministerial decorum. His older brother set the pace; his sister complied with the paternal standards of behavior. "Why couldn't Freddie?" the father insisted. He was a gentle, though firm, disciplinarian, he assured me, who seldom experienced trouble with his Sunday School classes. "I know how to handle children, but not this boy. He disregards praise, and punishment only makes him more rebellious. Night and day his conduct haunts me. I become terrified every time the telephone rings, expecting a call from the police."

The father's version of the problem shed a good deal of light on the boy's conduct. After some discussion, both parents agreed that Freddie was one of those individuals who rejected standardization and that he was a boy who would not conform to a particular social ritual chosen by his father and followed without dispute by the other members of the family. Freddie, it must be understood, was an adventurous lad, full of curiosity and imagination. Unlike his credulous brother, he took nothing for granted. He was bright but not studious. His mother characterized him as having a mind of his own, yet not stubborn. He could be reasoned with, if only one could determine the exact time when reasoning would be most effective. Thus far, all reasoning had to be done after the undesirable act had been committed.

Studies of children who have become problems in conduct have shown that the "middle" child is usually more susceptible to behavior disturbances than any of the other children. Freddie's case may well serve as an illustration. He was sandwiched in between a brother three years older and a sister two years younger. The brother worshipped his father; he was a model of filial respectability. His sister was a sickly child who demanded, and in all likelihood received, a large amount of attention from both parents.

Whether Freddie's wanderings were a reaction to a feeling of unimportance or an expression of curiosity or desire for adventure is, of course, open to argument. The fact remains that parental enthusiasm over the boy was admittedly lukewarm. Worry over his nonconformance and fear of public scandal remained the dominant concern. The ax was expected to fall. That it should take the form of burglary was "too shameful to bear." The worst that was expected was that Freddie would become a roustabout in a circus or a sailor on the high seas. "That's the extent of his ambitions," the father complains.

Against this family background there was the case of 11 year old Charles Miller who periodically absented himself from parental oversolicitude. I became acquainted with this boy seven years ago, when his parents were suddenly alarmed over his symptoms of a "nervous breakdown." Charles was in the habit of leaving home without notice or warning and roam around until late at night. On two occasions he was picked up as a vagrant, the first time in a hotel lobby, the second time in a corner of a park pavillion. "The next time I go," he cautioned his mother on returning from school one day, "you'll never see me again . . . Yes, I love you and Dad, but I can't stay here any longer . . ." He burst into uncontrollable weeping. His mother wept with him. Dad was summoned home from the office, and seeing the others weep he, too, fell in line. "But why, what have we done?" both parents pleaded. There was no answer.

Following this emotional spectacle, the boy was told that obviously he could not leave the house unescorted until he was ready to promise that he would not run away. Charles agreed that the punishment was reasonable and just. The invitation to lunch brought on an outburst of laughter, which in a few seconds changed into uncontrollable sobs.

I saw him for the first time late that afternoon. He submitted readily to the physical examination, but talk he would not. "He has not uttered a word since noon. All he does is stare at us," the parents were bewildered. "Could anything have happened to his brain?" they asked with alarm.

Dramatic scenes like this are not rare in a doctor's office, though their interpretation is at times extremely difficult. Why should a healthy 11 year old boy indulge in such theatrical maneuvers? He was the only child, beloved by his parents. There were no particular difficulties in connection with his school work, though he was not very popular with his

teachers or classmates. He was considered "spoiled" and "pampered."

Children run away from home at times because their surroundings are unbearable. One of the most pathetic cases that I recall at this time is that of a brilliant little fellow whom I shall designate as Homer. This boy at 10 years of age was brought to a clinic by the school authorities. He was an inveterate truant. The victim of an unfortunate accident when he was 4 years old, he wore an artificial eye. Homer was in trouble from the day he entered kindergarten. Overgrown for his age, he would pick on the smaller pupils in his class. His teacher showed every consideration and did her best to keep him out of mischief, but he simply could not conform to classroom discipline. As he advanced to higher grades, the problem became progressively worse. He could tease others, but any reference to his handicap was intolerable. Soon after he entered the fourth grade, he met his Waterloo. He engaged in a combat with an apparently quiet boy whom he had been bullying for some days and emerged not only with torn clothes and a bloody nose, but what was worse, with fallen prestige. From here on the whole narrative is that of struggle and attempted escape therefrom.

Instead of going to school Homer began to spend his days in the radio broadcasting station some six miles from his home. After several visits, the attendants became suspicious and turned him over to a policeman. The boy was so impressed by the officer that a few days later he paid him a visit at the station. There he was introduced to several other officers as, "My friend, Homer, the kid I was telling you about." For several days following this unusual adventure Homer fed his classmates hair-raising tales about his visit. It looked as though he was regaining his former standing. The trips to the police station became a daily pastime. He was allegedly so well received that even the teachers were impressed. It takes personality to be singled out by the policeman on the beat; yet here is a one-eyed boy whom practically every officer knows by name.

But there comes an end to all good things. Homer soon found himself confronted with skeptics. The older boys in school who had heard of his boasts began to demand evidence. "A real policeman would not even let you touch his gun, let alone let you use it," they argued. Or, "Only detectives can sit on the front seat of the patrol wagon . . ." and so on. He was losing his restored prestige. This in presence of an annoying suspicion that his welcome in the police station was on the decline.

On his way to school one morning he was attracted by a passing fire truck. He followed it to the barn and soon made friends with the men. He spent the better part of the morning inspecting the engine. Instead of going home, he "just walked." A passing motorist took him to a nearby town which the boy indicated as the home of a relative. The following morning he was found asleep in a hayloft near the edge of the town. He was an orphan, he said, on his way to Chicago to live with relatives. Following a hearty breakfast he was placed in custody of the sheriff.

Soon after his return to school the teasing was resumed. So were his absences. Fearful of running into the truant officer, Homer would hide in alleys, hotel or theater lobbies and department stores. He had little fear of the regular police force. It was not unusual for the boy to engage in friendly conversation with officers on their beat. He always presented a good reason for being downtown during school hours or late at night. "And what would ye be doin' downtown at midnight, me boy?" was answered promptly on one occasion by, "My old man didn't come home tonight." It was before the era of police radio cars, and the two searched for the "old man" until 3 o'clock on a cold winter night. On the doorsteps of his home he dismissed his companion. "Dad must have got home." The officer did not know, of course, that Dad was paralyzed and had not been out of the house for two years.

Some youngsters run away from home because of a dislike to face reality. Richard Howard, a high school pupil, was first seen at the age of 14 years. His story was not unusual. It was his second attempt to leave home. When he was in the eighth grade, and it looked as though he would not lead the class in some minor activity incident to graduation exercises, he came home, emptied his mother's purse and quietly disappeared. His parents remained alarmed until midnight, when they were informed of his safe arrival by a maternal aunt some 250 miles away.

The second attempt was thwarted by a highway patrol officer ten miles beyond the city limits when he found the family car stalled on the road, out of gasoline. The car had been reported stolen. He was not going anywhere in particular, he asserted tremblingly, "just for a ride to cool off in the country air."

Richard was fairly communicative. We talked frankly about the factors involved in his act, but the boy *(Continued on page 156)*

"Shall we give it to Daddy? . . . Look—look, Daddy loves it! He'll take it all, if you don't eat it up quick!" . . .
Silly, eh? That's what a baby thinks, too.
You don't need tricks if he likes the taste! He's bound to like Clapp's and thrive on them. You'd like them ever so much better yourself!

Cut the comedy and try Clapp's . . .
BABIES TAKE TO CLAPP'S!

There's no mystery about it really. Clapp's are garden-fresh when canned. That's one thing. They're ever so lightly salted according to doctors' directions—that's two. And years of plant-breeding and soil selection have made them rich in the minerals and vitamins that go along with appetizing flavor . . . Open up several different kinds of Strained Spinach, for instance, and taste them. You'll be astonished at the extra freshness and goodness of Clapp's!

Here's another point you might not notice—but babies do. Clapp's have just the right texture to give a baby's tongue real exercise without getting it into trouble. Babies appreciate that. So do doctors—they've been giving us tips about what babies like in texture and flavor for 19 years. For Clapp's is not only the oldest baby foods house—it is the only one of any importance that makes nothing *but* foods for babies and young children.

17 Strained Foods for Babies

Soups—Vegetable Soup • Beef Broth Liver Soup • Unstrained Baby Soup Vegetables with Beef • **Vegetables**—Asparagus • Spinach • Peas • Beets • Carrots Green Beans • Mixed Greens • **Fruits**—Apricots • Prunes • Apple Sauce • Pears and Peaches • **Cereal**—Baby Cereal.

12 Chopped Foods for Toddlers

Soup—Vegetable Soup • **Junior Dinners**—Vegetables with Beef • Vegetables with Lamb • Vegetables with Liver • **Vegetables**—Carrots • Spinach • Beets • Green Beans • Mixed Greens • **Fruits**—Apple Sauce • Prunes • **Dessert**—Pineapple Rice with Raisins.

Clapp's Baby Foods

OKAYED BY DOCTORS AND BABIES

BAKING POWDERS

BAKING powders are valuable leavening agents for use in home baking. There are several kinds of baking powder, which are all satisfactory when properly used.

All baking powders contain at least three ingredients, sodium bicarbonate or baking soda, an acidifying ingredient and some starch. Baking powders owe their leavening effect to the fact that the sodium bicarbonate when in contact with water dissolves and reacts with the acidifying agent liberating carbon dioxide gas. This liberation of carbon dioxide gas in the dough and the subsequent expansion of the gas by heat makes baked products light.

The amount of carbon dioxide gas produced by a baking powder depends on the amount of baking soda present. According to federal definition and standards, baking powder must "yield not less than 12 per cent of available carbon dioxide." Available carbon dioxide gas is the difference between the total and residual carbon dioxide and is the weight of carbon dioxide liberated under baking conditions. The residual carbon dioxide is that small amount which is retained in the baking powder residue after treatment with water and heat. For all these reasons, various brands of each type of baking powder contain about the same amount of baking soda (27 per cent) and are so compounded as to yield 14 per cent of available carbon dioxide.

The starch is added to baking powder to improve its keeping quality and to permit convenient standardization of the amount of carbon dioxide liberated. Baking soda is the only practical source of carbon dioxide now used for baking powder. There are, however, several materials used for acidifying purposes; these characterize the baking powder. Those most commonly used are: cream of tartar (potassium bitartrate), tartaric acid, monocalcium phosphate, disodium pyrophosphate and sodium aluminum sulfate (alum).

Baking powder that contains cream of tartar or tartaric acid, or both, is known as "tartrate baking powder," while that containing monocalcium phosphate or disodium pyrophosphate, or both, is known as "phosphate baking powder." Baking powder containing sodium aluminum sulfate is known as "alum baking powder." At the present time straight "alum baking powder" is seldom found on the market; it has been superseded by phosphate and alum baking pow-

Baking powder is an important ingredient of biscuits and muffins.

ders combined. Such baking powder is known as "combination baking powder."

The Council on Foods of the American Medical Association has accepted several brands of combination type baking powder and one brand of the phosphate baking powder. No tartrate baking powders have been submitted to the Council for consideration.

Different types of baking powder yield carbon dioxide at different rates when mixed into a dough or batter. A tartrate baking powder will yield all its available carbon dioxide when moistened at room temperature; but owing to the glutinous consistency of the dough, the gas is retained to a large extent until the product is baked. A phosphate baking powder will yield two thirds of its available carbon dioxide when moistened at room temperature, but heat is required to liberate the remainder. A combination powder will liberate about one fifth to one third of its available gas when moistened at room temperature, the remainder being liberated only after heat is applied. Baking powders that require heat for complete liberation of available carbon dioxide are sometimes called "double acting" powders. For this reason a lesser amount of combination baking powder is required to leaven a dough.

After the baking powder is spent there remains in the baked goods certain residues. The amount of residue left in baked goods by different baking powders is extremely small. The human body can excrete this small amount of residue, including that from alum baking powders, without difficulty. There is absolutely no truth to the old belief that baked products made with baking powder are harmful, in the opinion of the Council on Foods.

BAKING POWDERS

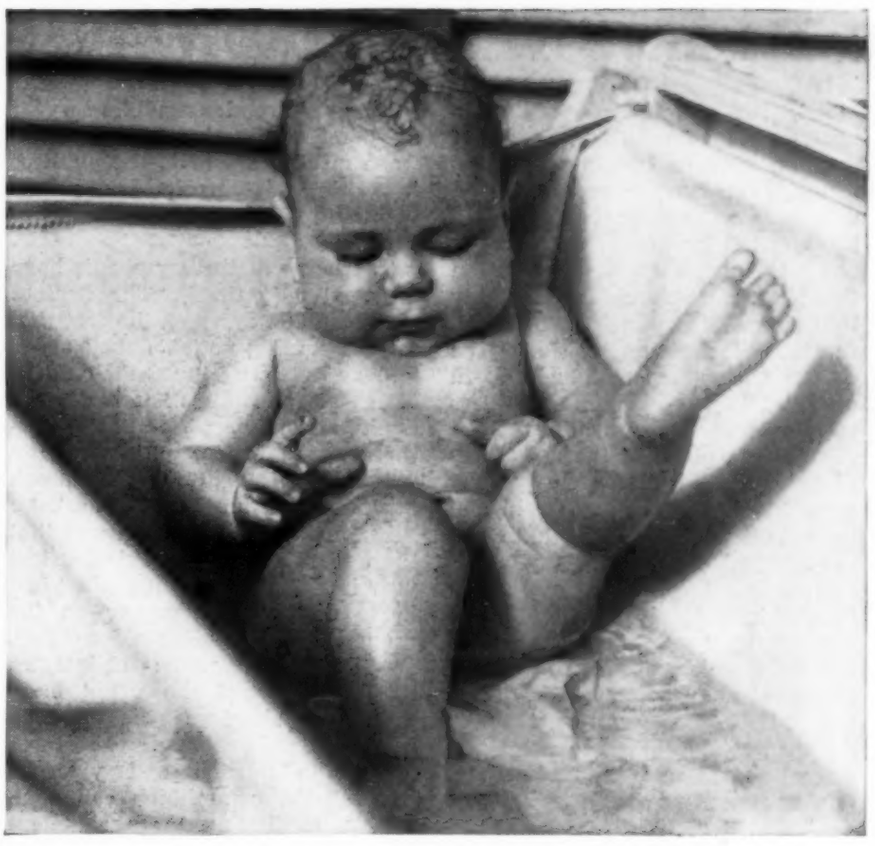
The following brands of baking powder stand accepted by the Council on Foods of the American Medical Association.

"COMBINATION" BAKING POWDERS

Calumet Baking Powder
Dairy Maid Baking Powder
Davis OK Baking Powder
Hi-Lo Double Acting Baking Powder
Snow King Double Acting Baking Powder
S-V Double Action Baking Powder
Texas Girl Double Acting Baking Powder

"PHOSPHATE" BAKING POWDER

Rumford's Baking Powder



Kicking... *but not a kick in the world!*

Now *that's* the way to feel in the tub! Vim and vigor, pep and sparkle, and a chubby foot waving in the air!

This baby is like thousands and thousands of bottle-fed youngsters today. They're fed a milk that *agrees* with them, and fortifies them for the job of growing.

That milk is Irradiated Carnation Milk. Physicians call it an ideal food for babies—with its body-building protein, its calcium and phosphorus for strong, straight bones and good sound teeth, and its "sunshine" vitamin D, to help those minerals work. And mothers rely implicitly upon the absolute purity and protection which is always Carnation's.

As for digestibility—Irradiated Carnation Milk is a *soft-curd* milk—like mother's milk itself. That means milk in its most digestible form. Healthy babies thrive on it—and so do sick and premature ones.

Talk with your doctor about putting your baby on a Carnation Milk formula.

FREE! New Baby Book, just off the press! Send for your copy of "Your Contented Baby," containing 48 pages of valuable practical hints on feeding, dressing, habit-training, and everything! Write to Carnation Company, 7011 Gas Light Bldg., Milwaukee, Wisconsin.

Irradiated Carnation Milk

"FROM CONTENTED COWS"

RULING THE SHORT WAVES

(Continued from page 121)

blood, the elimination of waste matter is retarded instead of speeded up. In treating sinus infections, extreme care must be taken not to pass strong radio waves through the brain.

All this leads to the conclusion that short-wave should be used only by the qualified physical therapist. One such technician insisted, "The doctor without special training in physical therapy has no business with a short-wave machine!"

"Why do physical therapists say that?" rejoined a doctor. "They consider short-wave their field and think we have no right to invade it!"

Doubtless there is some truth in this. There is also no doubt that many general practitioners and eye, ear, nose and throat men are using short-wave diathermy effectively and safely. For instance, there is the man who soothed my sinusitis and who gives an average of twenty-five treatments a day for sinusitis and arthritis. "With careful study, any intelligent doctor can quickly teach himself to use short-wave," writes the superintendent of a large eastern hospital.

The home machine, for use by the patient himself, is almost universally condemned by hospitals, physical therapists and general practitioners.

"The unusually intelligent patient might use a home machine under a doctor's direction," one hospital concedes; but even this cautious opinion is in a decided minority. "You would render a public service by condemning the use of short-wave machines sold to the public," says an associate professor of physical therapy at Northwestern University.

The home diathermy people have an answer to that. "The doctors and hospitals overlook the fact that we are finding patients they never had and helping those they failed to help. Hospitals and doctors don't advertise. We home diathermy people do, and our campaign has brought them as much business as it has brought us."

But it is a matter of record that the Federal Trade Commission last year issued a complaint against one home diathermy company on the ground of misleading advertising. By denouncing such claims as "short-wave will 'burn up' body poisons," "short-wave is effective for low blood pressure and restores people to normal and vigorous health," the commission called attention to the need of competent diagnosis and competent technic in the use of short-wave. As a result of this complaint, the company has modified its advertising and now claims only that its machine alleviates pain.

Home short-wave concerns give as an important reason for having a machine in your home the danger of going out into bad weather immediately after a treatment when it is taken at doctor's office or hospital. But hospitals and physicians deny this.

But their great argument, of course, is economy. Buy a machine and you won't need to go to a hospital or a doctor's office and pay out dollars for a treatment every time you have a pain. Prices of these home machines run from $135 up. They are sold on the instalment plan. Many companies rent them out at $30 a month. Rental applies on purchase price.

There are about a dozen companies making and selling home machines. One leading company reports that it sells 1,000 sets a year, rents over 7,000. But other concerns are not so precise, and it is difficult to state the total number in use. Any one who contemplates the purchase or use of a short-wave machine should make certain that the device actually delivers heat deeply into human tissue and that the claims made for it have been verified by some competent authority.

The major objection doctors express against home treatment with short-wave machines is that it promotes *the treatment of symptoms rather than causes.* It may ease pain—as unquestionably these home machines often do—but it may also divert attention from the real cause of the pain with sometimes tragic results, which might have been avoided by consulting a doctor.

There is no healing magic in short-wave treatment. But in proper hands it is a powerful instrument for the alleviation of human suffering.

Warns of Limitations of New Drug for Syphilis

A warning of the menace to the individual and to the public health that exists in self treatment of syphilis is sounded by *The Journal* of the American Medical Association in commenting on the acceptance by the Association's Council on Pharmacy and Chemistry of a new drug, sobisminol mass, which can be taken by mouth as part of the treatment for syphilis, and sobisminol solution for injection.

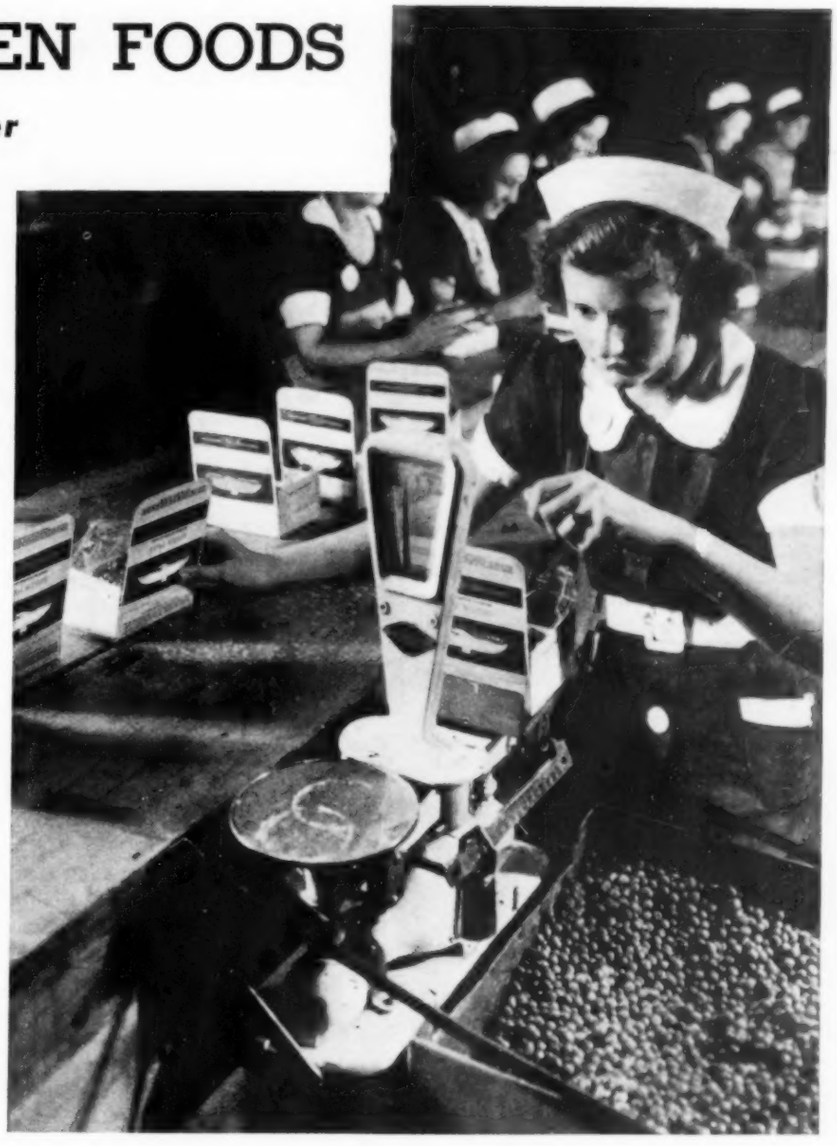
Heretofore, the standard method used by most physicians in the treatment of the disease has been alternating the injections into the vein of arsenical compounds based on the famed discovery of Ehrlich, and injections of bismuth compounds into the muscles of the hip. The new drug is not a substitute for this treatment but must be taken in conjunction with the injection of one of the arsenical compounds.

The Journal points out that with the standard method of treating syphilis "the disease is under constant attack by the respective metallic compounds. The routine weekly schedule facilitates the observation of the effect of the treatment on the disease and on the patient. Perhaps most important to the individual and to society, routine administration of medication provides the physician with an effective means of insuring the prolonged cooperation of the patient.

"Now, for the first time, appears a metallic preparation which seems to be useful when administered by mouth for the treatment of syphilis. The fact that it is taken by mouth indicates that it may frequently be adapted for self treatment. This form of treatment is certainly not advisable except for intelligent, cooperative patients. Forgotten doses of treatment or negligent behavior on the part of the patient must inevitably lead to relapse, with consequent possibilities of infection of other people. It is essential that the patient take the treatment regularly, as directed by the physician, or that the physician insist on the injection by muscle route for treatment for uncooperative patients."

QUICK-FROZEN FOODS

By Harriet Morgan Fyler



This inspector checks the weight of each carton of peas before it goes to the sealing machine. The badge on her collar indicates she has passed the daily health examination, which is required before she is allowed to work.

IT'S June in January when quick-frozen foods are served, for quick freezing retains all the bloom and lusciousness of vine or tree ripened fruits and vegetables in their pristine condition. More than 100 different kinds of foods are available in the frozen form, including berries, peaches, cherries, peas, beans, asparagus, broccoli, corn, spinach, meats, fish and poultry that defy the most delicate palate to differentiate them from their freshly picked kin. At this season of the year, quick-frozen foods are not more expensive than their shipped-in counterparts. Only at times of the year when fresh goods are plentiful in the open market can they be purchased on a parity or at a lower price than the frozen, and even then, when the waste elimination and convenience and saving of labor are considered, quick-frozen foods are economical, compared with fresh produce.

Quick freezing is a relatively new means of food preservation. From time immemorial, man has attempted to preserve foods so that he could maintain existence when green stuff was not growing and when animals would hibernate and hide beyond his reach. The American Indian "jerked" beef, that is, cut it in small strips, dried it in the sun, later pounded the brittle bits mixed with berries and seeds in a stone mortar and stowed it between layers of fat in rawhide bags. Our word "buccaneer" comes from the practice of buccanning meat, or drying and smoking the flesh of cattle and sheep.

In 1800, Australians were successful in freezing beef and exporting it to England. In 1861, a Maine Yankee sold frozen fish. But preserving vegetables and fruit by freezing is a new venture.

The secret of quick-freezing food probably lies in one word—speed. When fresh food is frozen slowly, large ice crystals are formed that cut and tear delicate cell walls. On thawing, there is a tendency for the contents of the cells to leak out, taking along certain elements of flavor and food value. Then the food is flabby and unpalatable. Meat frozen by the older methods was likely to be dry and tasteless like a bottle of ginger ale that has been allowed to stand overnight uncorked.

But quick freezing prevents the formation of large ice crystals. The food passes so rapidly through a frigid tunnel that any ice crystals formed are so tiny that they do not damage cell walls. Cells retain their original structure, and there is no leakage of juices. The thawed product then has the same firmness and fresh appearance as it had before it was "frozen."

The freezing is accomplished by brine-cooled metal belts passing in close contact with small packages of food, which weigh from ½ to 2 pounds. The temperature is usually -20 F., though many vegetables may be satisfactorily frozen at zero. Crystals begin to form at a little below 32 F., and by the time the temperature has dropped to 15 degrees most of the water in the food is ice. From thirty to sixty minutes are required to complete the freezing, after which the solidly frozen packages are placed in freezing storage.

The solidly frozen packages of food remain frozen until they are purchased by the consumer. Grocery stores that retail quick-frozen

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made from properly ripened grapes. Contains no added sugar, water or other substance whatsoever.
Free from the excess acid of unripened fruit.
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THIS TOMATO JUICE IS
NEVER THIN OR WATERY
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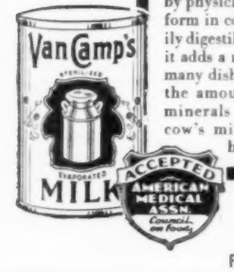

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foods have sales cabinets specially equipped to maintain the necessary low temperature. Once the congealed contents of a package is thawed, it must be used promptly, as decomposition takes place within a few hours after defrosting. Defrosted foods must never be refrozen.

Most vegetables that are processed by quick freezing are blanched, or precooked, in order to render inactive the enzymes which are natural to all plant foods and which often cause off-flavors to develop later on, even at temperatures as low as zero. This blanching also serves to cleanse the vegetables and decrease the numbers of microorganisms present. There is a small loss of vitamin C during the blanching process, which becomes greater as the blanching period is prolonged.

According to information available, quick freezing has little effect on the nutritive properties of foods thus processed. Vitamins A, B_1 and C are not destroyed to any appreciable extent. In fact, some quick-frozen vegetables have been shown to contain more vitamin C than their counterpart purchased on the market a few days after harvest. There is some evidence that most vegetables slowly lose vitamin C during storage after harvest.

Because their preparation for the table requires less cooking time and less cooking water, the chances are that more minerals and vitamins soluble in water are saved. Prolonged cooking in large quantities of water destroys practically all the vitamin C present in the fresh vegetables. For example, 44 per cent of the vitamin C of fresh raw carrots is lost during the process of boiling carrots in large quantities of water; 33 per cent of the vitamin C passes into the cooking water, and 11 per cent is simply destroyed. A third of the cooking time is lopped off when vegetables are quick frozen.

There are many advantages to quick-frozen foods. The process makes possible the storage of perishable edibles, the excess production of which might otherwise be a drug on the market. The merchandise is easy to handle, and, as with most boxed goods, there is little waste. Seasons and distances are wiped out. Housewives are freed of "pea sheller's thumb," and husbands can save the energy once wasted on dark thoughts about gritty spinach for other activities.

The popularity of such products is attested by the following figures released from the U. S. Department of Agriculture, which show the 1939 supply of quick-frozen processed products to be: 31,825,000 pounds of fruits, of which 13,056,000 pounds are strawberries; vegetables, 69,239,000 pounds, of which 26,679,000 pounds are peas, 13,605,000 pounds lima beans, 6,941,000 pounds sweet corn, 5,548,000 snap beans and 4,125,000 pounds asparagus.

Casserole of Chicken

1 frosted fowl, partially thawed
½ cup butter or other fat
1 cup mushrooms
¼ cup sliced onions
2 cups milk or thin cream
Salt, pepper and flour

Separate fowl into pieces for serving. Season with salt and pepper, and roll in flour. Fry until brown in butter or fat. Place in casserole. Fry onions and mushrooms until delicately brown in the drippings left from browning the chicken; add cream, and pour over chicken. Cover casserole tightly, and bake in moderate oven (325 F.) 2½ hours or until chicken is tender. This serves six persons.

Strawberry Mousse

1 box frosted strawberries, thawed
¼ cup sugar
⅛ teaspoon salt
1 cup whipping cream

Crush strawberries, add sugar and salt, and fold in whipped cream. Turn into freezing tray of automatic refrigerator and let stand 2½ to 3 hours. Or turn into mold, cover with waxed paper, press cover tightly down over paper, and pack in equal parts of ice and salt; let stand 2½ to 3 hours. This makes ¾ quart.

Asparagus with Cheese and Almonds

1 box of frosted asparagus tips, thawed
¼ cup boiling water
1 cup blanched almonds
1 cup grated American cheese
6 slices toasted bread
Cream sauce made with:
3 tablespoons butter
3 tablespoons flour
1 cup milk
Cooking water from the asparagus

Place thawed asparagus tips in saucepan. Add boiling water, and cook until tender (about 3 minutes).

Drain and arrange on slices of toast. Make cream sauce by melting the butter, adding the flour and stirring until the mixture is smooth. Add the milk and the asparagus cooking water. Cook, stirring, until thick; season and add cheese. Let stand over hot water until the cheese is thoroughly melted. Pour over asparagus and toast; sprinkle blanched almonds generously on top of each serving.

Broccoli with Hollandaise Sauce

1 box frosted broccoli, thawed
⅓ cup boiling water, salted

Cook broccoli in rapidly boiling water, uncovered, for about 5 to 8 minutes, or until tender but not mushy. Drain and serve at once with Hollandaise sauce.

Succotash

1 box frosted lima beans, thawed
1 box frosted cut corn, thawed
½ cup boiling water, salted
1 cup light cream
Salt and pepper

Cook lima beans and corn in rapidly boiling water about 5 to 8 minutes. When tender, add cream and seasoning; bring to a boil, and serve at once.

Creamed Spinach

1 box frosted spinach, thawed
¼ cup boiling water, salted
1 tablespoon butter, melted
1 tablespoon flour
⅔ cup light cream
¾ teaspoon salt

Cook thawed spinach in briskly boiling salted water from 3 to 5 minutes, turning to separate leaves; drain and chop. Combine butter and flour in saucepan and stir to a smooth paste. Add cream gradually and cook until thickened, stirring constantly. Add spinach and seasonings and heat thoroughly.

Quick Hollandaise Sauce

4 egg yolks
½ cup butter, melted
¼ teaspoon salt
⅛ teaspoon paprika
¾ cup boiling water
2 tablespoons lemon juice

Stir egg yolks. Add melted butter gradually. Season with salt and paprika. Add boiling water, stirring constantly. Put into double boiler, and cook just until thickened. Remove from fire, and add lemon juice. Pour over broccoli, and serve at once.

The PSYCHOLOGY of SEX

(***Continued from page 128***)

down. Patience and tenderness at this crucial time is good insurance against resistance which, if developed, may persist.

Whether there are innate or true differences between man and woman, psychologically and sociologically speaking, is not known, but we do know that there are differences. It has been found that women greatly exceed men both in emotional inhibitions and in the substitution of responses which prevent embarrassing betrayal of conflict when tested by the word-association method. Women are likely to be more personal and emotional in their interests than men. While men talk more frequently about money, business and recreations, women talk of men, clothes and decoration. Certainly with respect to the matter of things physical, women are more reticent and timid than men. Women are said to be more modest. Certainly this is true with reference to their own bodies. Just recently in a large medical meeting the statement was made that disturbances in a woman's genital organs often are allowed to progress to advanced stages before she will seek medical advice. It was suggested that the usual cause of this was woman's reluctance to submit herself to the necessary examination. If these things are true, there should be more sympathetic understanding on the part of men.

Another thing we must not lose sight of is the fact that the status of woman has changed considerably. For those who are interested in the history of these changes Brefault's book, "The Mothers," will be stimulating and helpful. Today more than ever, woman stands in a position of equality with man. "The wife is today no longer a purely domestic creature, with no interests outside the home, and it is not easy to imagine a satisfactory marriage in which there is no general agreement concerning the larger movements of social life in the world, whatever difference there must inevitably be concerning matters of method and detail." Now this change in status demands more from men than was demanded in the past. One's attitude toward chattel or a piece of property, as was the relationship not so many years ago, will of necessity be different from one's feeling toward an individual who is a partner in a joint enterprise. While there is still much of the old autocratic, despotic attitude prevailing among men, there is this growing change toward a more mutual sharing, a mutual respect, a fifty-fifty relationship. This change demands of men a greater understanding of ways and means whereby they can develop a keener insight into the technics essential to a satisfactory relationship.

The sexual adjustments of marriage present an important problem in mental hygiene. Studies of incompatible couples show that differences in sex desires and lack of satisfaction are a prominent underlying cause of general marital maladjustment. Because sex is such a highly valued and intimately personal function, failures in sex adjustment often lead to feelings of inferiority, which in turn manifest themselves in defensive behavior in other relationships of life. Irritability, nervousness, restless anxiety is often produced by sex excitement with inadequate satisfaction. The present tabus surrounding the subject of sex make it necessary for many young people to face this major problem with little preparation for it. Sexual knowledge and skill are not instinctive, and education is as much needed in this field as in any other. An intelligent knowledge of sex is not sufficient, however. Even more important are attitudes toward sex which may have been distorted because of early training, unfortunate associations or the adoption of the points of view of maladjusted parents. Marriage itself may provide the means for reshaping these attitudes.

RUNNING AWAY (Continued from page 148)

proved evasive. "He has always been an outstanding pupil. His I.Q. shows him near the border of genius," Mrs. Howard assured me. This extraordinary endowment was given as an explanation for his lack of popularity among his fellow pupils. "They are jealous of his good grades and especially of his popularity with the better class girls."

I was not able to establish satisfactorily Richard's standing among "the better class girls," but a glance at his school record proved both surprising and enlightening. Far from being the "outstanding pupil," the boy was practically at the bottom of the class.

The four cases here described portray four distinct types. In each instance there was a definite factor which was at the basis of the trouble. The behavior of these children was not bound up in mystery or in deep psychologic distortion of their character. Their problems became simple once an effort was made to interpret their conduct as that of youngsters with normal human endowments in an attempt at self expression. To be sure, such extravagant self expression is potentially detrimental to the welfare of the organism, involving as it does dangerous physical and social risks. Running away makes lying and stealing an inescapable necessity. However, when checked in an early stage, they are far from hopeless.

Freddie, for example, is now a young man of 23 years. To his father he is still a "restless soul," the exact opposite of his brother. Freddie graduated from the School of Commerce of the state university last June, and unable to make more enticing business connections, he became an attendant in a gasoline station of a well known national oil company. Within two months he became the manager of the station. At present he is district supervisor for the company with a good salary and an excellent future.

Charles, the lad who at the age of 11 threatened his parents with permanent disappearance, is now a freshman in college. The boy's life is not an easy one. His parents are both college graduates and really should have been more successful, but unfortunately their emotions were stronger than their reasoning. "He was a colicky baby," both Father and Mother explained in self defense. "And you know how it is when a baby is in distress, especially when it's the first baby. Our doctors, and we had many of them, used to tell us not to take his crying too seriously, but . . ."

Following the first examination Charles was placed in a hospital. According to the intern, the boy showed no resistance to the examination. During the entire procedure, however, he did not utter a word. He refused his supper. Late that evening he was fed by stomach tube. When the breakfast tray was brought in the following morning, he was asked whether he would take his food voluntarily or by tube. He only stared at the nurse. By the time she returned with the stomach tube, he had eaten half the breakfast. At noon the tube was brought in first. He began to scream and after a few moments asked to be allowed to eat.

Charles had two outstanding grievances: First, he was indignant at his mother's waiting for him in the car to take him home from school each day. Second, his parents made him wear a heavy topcoat to school when the other boys wore no extra clothes or only a short mackintosh. These grievances were related with a good deal of blushing and no small degree of hesitancy. There were many other complaints of a minor and rather humorous character, such as being taken through the school grounds under a parasol in case of rain or being the celebrant of a birthday party and other "sissy stuff." Yes, he appreciated that Dad and Mother meant well, "But they forget that I am not a baby any more, and Mother does not have to kiss me when the other kids are around."

His parents agreed to lift some of the excess protection and to suspend a few of their good intentions. All was well until spring when the boy's fancy turned to the road. For his birthday, some two weeks before, a cynical relative sent Charles a bicycle which his frightened parents immediately locked in the garage. "There are so many accidents," they explained, and the boy was so young! It was a bright Saturday in April. The keys to the garage were in Mother's purse, which was left, strangely enough, on his dresser.

It was past midnight when the boy was brought home escorted by police. His plan, he subsequently explained, was to visit a relative in a town some fifty miles distant. He had traveled about ten or twelve miles when he encountered a hitch hiker. The two ate in a filling station, and being tired they lay down in a nearby shack. The boy fell asleep, and when he awakened both his companion and his bicycle had disappeared. A passing motorist took him back to the edge of the city, and, fearful of the consequences, he wandered around the park until he became exhausted and fell asleep in the pavillion. The parents were so happy to see the boy alive that they pleaded with the officers not to pursue the hitch hiker. As to the few dollars that he took from his son, Mr. Miller was certain that the poor fellow needed them more badly than Charles. Anyway, "Mother had no business leaving her purse within such tempting proximity." Contrary to parental prophesy, Charles did not develop pneumonia from the exposure. It did, however, cure him of the wanderlust.

With Homer, society was not as broadminded. In view of his own handicap and the poor social and economic conditions of his parents, all efforts to help the boy proved futile. He is 19 years old now. The family moved to another locality five years ago, when his father was admitted to a government hospital. About a year after leaving this city, Homer surprised me with a visit. He returned with his mother, he explained, his father having died several days before. He thought that he would look me up while his mother was looking for an apartment. He had not changed much. Alert as ever, amiable and dramatic, he began to recount past and recent experiences. His mother had come into a "nice hunk of dough." "The old man," he added, "left a big wad of insurance, you know. Oh, we're on Easy Street now." He was a hopeless prevaricator, I knew; but

his narrative was still within the realm of probability.

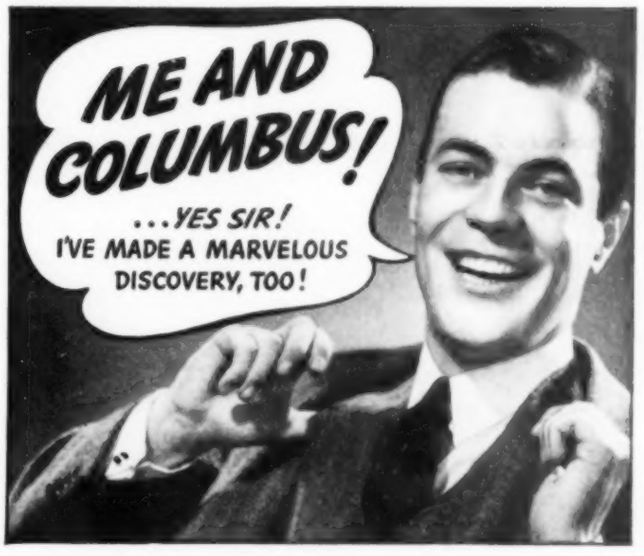
Two days following his visit, I learned that Homer had emptied the family purse containing the monthly pension and ran away while Mother was in the hospital visiting his father. The details of when or how he returned home I do not know. That he has grown less successful with the police I conclude from the fact that for the past several months he was assigned to residence in an industrial school for boys. His father, I recently learned from a distant maternal relative, is still "enjoying life in the veteran's hospital."

Richard Howard, the "genius" who preferred running away to facing his mother with a poor report card, has recently graduated from law school. He had a rather stormy adolescence with numerous impulses to run away. However, they were seldom translated into action because foolishly, or perhaps purposely, each time that he was seized with the wanderlust, he attempted to interest the wrong companion, who on the appointed day would repudiate his oath to secrecy and "spoil the whole thing."

That Richard was bright was readily admitted by all his teachers. The statement, however, was invariably qualified by an opinion that he was disgustingly conceited, and with it he was an unscrupulous liar. The fact is that he became involved in so many lies to his parents and what few friends he had that even an ordinary mortal would be reluctant to face them. Thus explaining a poor grade in his major subjects was not nearly as embarrassing as the dilemma which occurred when Marjorie, one of "the better class girls" whom he was to have taken to a movie the preceding evening, became indignant at Mrs. Howard when she called to ask for her son. That this girl was brutally tactless in publicly denouncing him as the champion liar in the world added pain to misery. The thought of remaining in school with these boys and girls became revolting.

The problem here was not serious. It took some time and much effort to bring all the "jams" out in the open. He began to show improvement in his school work almost immediately after his "confessions." Although there were several relapses in his tendency to fabrication and a few thwarted attempts to shun reality by running away, the boy graduated from high school, not with glory, to be sure, but with a more wholesome philosophy of life than he had entertained earlier in his youth. In college he did excellent work, and, as in most of the classes in grade school, he maintained a high rank in his scholarship.

Fate plays strange pranks at times. On graduation from law school Richard became associated with a group of attorneys. His first assignment was the preparation of a suit for divorce instituted by Marjorie F. against Robert F., the charge —extreme cruelty. "Can you imagine me outlining a brief for that girl?" Richard wants to know!



SAM: All right, Chris, let's have the low-down! I've been wondering what made you so chipper lately!

CHRIS: The finest-tasting breakfast cereal you ever put in your mouth, Sam—Post's 40% Bran Flakes! They're selling at a new low price now—and I learned a few months ago Post's Bran Flakes are not only mighty fine eatin'—they also give you *two extra benefits* . . .

FIRST, Post's Bran Flakes provide just enough bran, a *natural* regulator, that helps protect you against sluggishness. People whose systems are irregular, due to lack of bulk in the diet, find Post's Bran Flakes, eaten daily, a wonderful help.

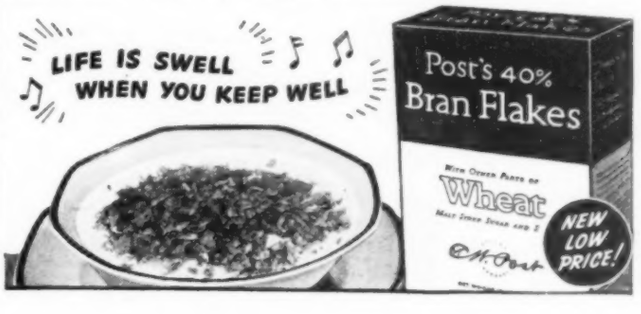
SECOND, Post's Bran Flakes are rich in phosphorus. They are a rich food source of iron, and a good source of Vitamin B_1 —an essential for maintaining good appetite . . . And today, Post's Bran Flakes come to you at a NEW LOW PRICE!

SIX MONTHS LATER . . .

SAM: You sure were right, old man —I've been eating those swell-tasting Post's Bran Flakes every morning for six months, and believe me, I never felt better in my life!

CHRIS: You said it, Sam! It's a great thing to find a cereal that tastes so *good* and gives you important *extra benefits* as well!

IMPORTANT: Post's Bran Flakes, due to their bulk, are a *regulative* cereal. Constipation due to insufficient bulk in the diet should yield to Post's Bran Flakes, eaten regularly—as a cereal or in muffins. For cases not corrected in this simple manner, a physician should be consulted. Post's Bran Flakes are a Post Cereal—made by General Foods.



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Stephen Deutch

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1. All pictures must illustrate a medical or health-building activity.

2. Each photograph must carry on the back the typewritten or printed name and address of entrant. The Official Registration Blank appearing on this page, or a reasonable facsimile thereof, should accompany each set of prints.

3. Submit any number of pictures. Montages or other special effects are not eligible. Prints must be at least 5 x 7 and mounted on a plain mat surface.

4. No employee of *Hygeia*, the American Medical Association or their families are eligible to enter the contest.

5. No picture is eligible for this competition if exclusive rights on it have been granted elsewhere.

6. Pictures will be returned only if accompanied by a self-addressed envelop or label with sufficient postage to cover return mailing. While exercising the utmost care in handling, *Hygeia* does not assume any responsibility for the loss or damage of entries.

7. The judges of this contest will be Torkel Korling, famous photographer; Austin A. Hayden, M.D., and Ethel S. Vernon, *Hygeia* Art Director. Their decision must be accepted by contestants as final.

8. All entries must be in the hands of the *Hygeia Contest Editor*, 535 N. Dearborn St., Chicago, by April 1, 1940. The winners will be announced in the June issue. In case of ties, duplicate prizes will be awarded. If any of these rules have not been complied with, the entry is immediately disqualified.

9. Prize winning prints, including reproduction rights, become the property of *Hygeia*.

10. The Contest Editor regrets that he cannot undertake correspondence with regard to entries.

The MASTOID MENACE (Continued from page 118)

offensive odor from the ear or alarmed at the onset of threatening symptoms, such as headache and dizziness.

The treatment of the chronic discharging ear must be individualized because of decided differences in cases. Several valuable remedies are now available. Major surgery of the mastoid and middle ear, however, is occasionally necessary, especially in cases of long standing which develop signs of threatening complications. Emphasis must be laid on the importance of clearing up any infections of the nose and throat, such as infected sinuses or infected tonsils. Equally important is the removal of obstructions in the nose and throat, such as deflected septum, nasal polyps and excessive adenoids, which tend to produce an unhealthy condition of the nose and interfere with normal ventilation of the middle ear and mastoid cells. Extreme cleanliness of the ear must be maintained to prevent continuous reinfection. Stress is also laid on improving the general health and resistance of the individual through appropriate hygienic and therapeutic measures. Patience and perseverance on the part of both patient and physician are indispensable for the successful treatment of a chronic ear infection.

In the prevention of middle ear and mastoid infection, it should be remembered that infection cannot enter through the outer ear canal as long as the ear drum is intact. However, virulent infection of the middle ear and mastoid occasionally results from perforations of the ear drum through the careless use of hairpins or toothpicks for cleaning or scratching the ear canal. Rupture of the ear drum by air pressure frequently results from boxing the ear, even lightly. Such a rupture does not usually carry infection with it, and normal hearing returns when the perforation closes in about two weeks. A normal ear drum does not permit water to enter the middle ear by way of the outer ear canal during bathing or swimming, and the use of ear plugs for such purposes should be limited to persons having a perforation of the ear drum. Such perforations are always present in persons with a discharging middle ear and are often present in patients whose discharging middle ears of long duration are healed. Small perforations of the ear drum mend readily; large perforations resulting from virulent or prolonged infections are frequently permanent. Persons having such perforations should be warned against swimming without adequate ear plugs. Without this protection they run the risk of reinfecting the ear. There is also the danger of drowning due to an attack of severe dizziness, which can be induced through irritation of the inner ear or labyrinth by the cold water entering directly into the middle ear.

In preventing ear infection, chief consideration must be given to the nose and throat. By this route, infection may be forced through the eustachian tube into the middle ear by violent blowing of the nose or by diving into deep water, especially polluted water. When infants vomit, milk is sometimes forced into the middle ear, thus causing infection. The vomiting may be induced by difficulty in nursing due to obstruction of the nose by excessive adenoids. More commonly, however, the infection extends into the middle ear by continuity from an inflamed mucous membrane of the nose and throat. The ordinary cold in the head is therefore frequently a forerunner of the ear infection. Prevention and treatment of the common cold deserves more attention than it usually receives. In some of the contagious diseases, especially influenza, scarlet fever and measles, severe ear infections often develop. Special attention should therefore be given in these cases to the condition of the nose and throat. A healthy condition of the nose and throat is essential in the prevention and treatment of both acute and chronic middle ear and mastoid infections.

Hygeia Index Available

The complete index to volume 17 of HYGEIA (January to December 1939) is now available. A copy for reference may be secured by sending a stamped, self addressed envelop with your request to Mr. F. V. Cargill, circulation manager, HYGEIA, 535 N. Dearborn St., Chicago.

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Courtenay's Manicare

How to be an INTELLIGENT PATIENT (Continued from page 111)

has it. It is actually money in the bank for him.

We come now to a lesson on how to conduct oneself as a patient during the actual consultation. Doctors are not primarily business men, and yet each one of them comes soon to a realization that his stock of time is limited. You may not have noticed that the actual time you are alone with your doctor in his office is relatively short, although the first visit may be somewhat longer. You feel that your time with the doctor is much longer because you spend so much time giving the secretary certain routine information; you spend so much time disrobing in the dressing room; you spend so much time being prepared or waiting in the examining or consulting room.

Let me address myself again to your prudent purchasing instincts. Why not make the most of the precious minutes you have purchased? I can tell you the story of at least one woman I have seen a dozen times, who has yet to tell me her specific complaint. Possibly she has none. Possibly she is trying to see how long she can hide it from me. I have treated her purely on my objective findings on examination, made in the face of a constant inconsequential chatter. I have even been forced to listen to her heart while the nurse takes her temperature, but of late she has learned to talk with the thermometer in her mouth, so I must resign myself to the solemn fact that I shall probably never learn her true symptoms. This, by the way, is the patient who gave us the history, now classic in my office, that she had her tonsils out the year before her brother died; that her brother died when the second baby was 2 years old, and that the baby was quite a big girl by now.

If the doctor's office makes you nervous and forgetful, it might be well to carry a little notation of dates and symptoms, the salient facts about past illnesses, operations, accidents. Bring also hospital reports, laboratory sheets, x-ray photographs, electrocardiograms—whatever medical data you have accumulated. Even when these are old, and you think they are not pertinent to your present illness, they are often of great help for comparison with your present examination. The fact that a certain something was not present on such and such a date may be of much more significance than you think.

Another hint: Carry your list of questions, so that you will set your mind at ease. Never spend any time apologizing for the question you ask the doctor, asking his pardon because he must think they are silly. Silly or not, if they are important to the patient, the doctor is glad to answer them definitely and to the point. You might jot down the answers; he won't mind that either. Personally, I never mind the silliest question, until it has been asked with the same apologetic preface at least three times, either at the same or on succeeding visits. Some patients continue nervously to ask questions without paying any attention to the answers. These are not really questions, but veiled statements of distress. This questioner is most easily helped by giving him a typewritten list of answers to be read over and studied at home.

Remember that you come to the doctor for two things, his opinion and his advice. Do not lose sight of your objective, and be sure that you are well satisfied on both points before you leave. Remember that you must have these two things to achieve the purpose for which you are paying your money. Above all, listen closely to the directions that you must follow and be sure you understand them; make notes if you must. To rely on the medicine label is futile, for the medicine is only a part of the regimen for cure. Diet, rest, exercise, elimination, recreation—do not underestimate these hygienic factors. Resolve that you intend to follow the entire course of treatment implicitly. If for any reason you think that the doctor's advice will not help you, that the medicine is similar to what was ineffective in a previous illness or different from what another doctor found successful, the time to say that is then and there. Whether you are right or wrong, settle it with the person who is trained to tell you, and don't take it out in complaints to your husband or the butcher or your neighbor.

It is amazing how many persons leave their doctor's office with a fistful of prescriptions and a head full of advice and blithely do nothing about either. A larger number follow the cure for a day or two, and then, as their symptoms leave, inertia returns, and their good resolution trails off into nothingness. If they have been told to report their progress, they forget or neglect it. The treatment interrupted, the symptoms return. After a puzzled interval of distress, they go back to the medicine or back to the doctor, and the vicious circle repeats itself. None of these good persons would dream of buying a pair of shoes and throwing one of them away or discarding the trousers of a newly purchased suit of clothes. Yet because it involves effort, they gaily forego half the value of the advice they have purchased and are driven back for more which they will similarly waste.

The check-up visit at the end of an illness is the one that is oftenest skipped; patients glory in regained health and turn quickly from reminders of disease. But this last check-up has two important values for the patient. The first one you know; it is to give what final directions are necessary to guard against a relapse. The second is to let the doctor see you as a well man, to make a record of your blood pressure, pulse rate and other physical characteristics when you are well, for future comparison. With the recent advocacy of the periodic health examination, increasing numbers of patients are having this check-up at regular intervals, illness or no illness. An investment of this kind pays dividends, and yet it is far less universal than the religiously regular crank case check-up and greasing you give your car. You'll have a new model car next year, but you can't regrind your heart valves!

The last lesson in our course of training is on the matter of the doctor's fees. I leave it to the end because I share the natural reluctance of my colleagues to discuss this subject. When a man's mind is tuned to a "2% cash, net 30 days" tempo, he is not likely to study medicine. There is a tradition that doctors are always paid slowly and grudgingly and that they don't mind it; this is wrong both ways. The greatest number of any man's

patients are prompt and cheerful payers. There are dead beats in any business, but the cheerful payer gets prompt and cheerful service in medicine as anywhere else. The shopper who looks for bargains just as often cheats himself with an inferior article that he doesn't want, and the demanding customer who is chronically slow pay soon exhausts his merchant's interest. Most of my old patients tell me that they were embarrassed about mentioning the fee when they first started going to doctors. As a matter of fact, the doctor is more embarrassed when they do not mention it. The best thing for you as a patient to do is to bring up the subject of the fees yourself; since you really intend to pay anyway, you might as well be matter of fact about it. The fee at best is a poor, arbitrary thing; who will attempt to set an honest value on reassurance and relief, on hope, on confidence, on death averted and a life restored?

All patients must now be divided into the vast and wasteful untrained and those who are resolved to apply to the business of being doctored the same intelligent and professional standards they expect of the man who doctors them. I have listed and described a few of the fundamentals. You will do well to consider them seriously, as a prescription. But like all medicine, it is not completely pleasant to the taste and does no good unless administered strictly in accordance with directions.

Volunteer Donors

Among the Eastern radio stations which have gathered a group of volunteers for donating blood for emergency transfusions is station WTHT, Hartford, Conn. They have nearly 200 volunteers, most of whom have had their blood tested for type and are on file at the radio station and the Hartford Police Department.

Blood Transfusions for Effective Burn Treatment

Early and repeated blood transfusions are imperative in the effective treatment of extensive and critical burns, H. M. Trusler, H. L. Egbert and H. S. Williams, Indianapolis, contend in *The Journal* of the American Medical Association.

Compensation is needed for loss of the fluid part of the blood which escapes into the tissues of the body.

To make a delicate task easier for you . . .

IT IS NATURAL that your girls should turn to you when they are puzzled or troubled about the physical changes in their lives. And because of their trust, because they are so genuinely in need of help, you feel that you *must* answer their questions with accuracy but with really gentle understanding.

To make this delicate task easier, Modess has prepared booklets and charts especially suited for classroom needs or individual conferences.

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Won't *you* send for this free material today—and be sure to ask for a sufficient number of booklets so that each girl in your class may have her own copy.

For High School Girls—"The Periodic Cycle" contains facts based on modern medical opinion. Helps dispel old-fashioned "bugaboos."

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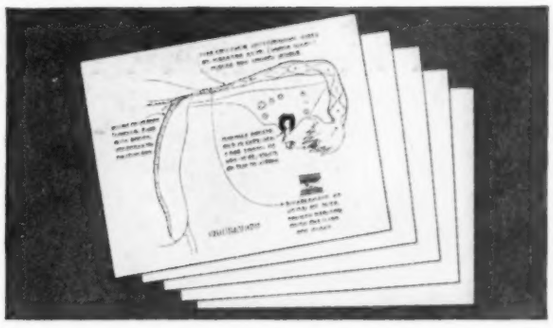

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BOOKS ON HEALTH

Health Facts for College Students

By Maude Lee Etheredge, M.D., Dr.P.H. Third Edition. Cloth. Price, $2. Pp. 410. Philadelphia: W. B. Saunders Company, 1939.

The purpose of this book is "to acquaint the student in college with some of the facts which health science has discovered." The content appears to be a series of short talks on various personal and community hygiene subjects. Although the facts are given, the frequent, staccato-like sentences make their presentation somewhat labored. Treatment of most of the problems is competent but perhaps a little too inclusive. One wonders, for example, if the detailed account of antisyphilitic treatment might not detract from an otherwise splendid discussion of syphilis.

The author has made some progress in organizing the book on the basis of important student health problems, but it still lacks perfection in organization and style. A treatment of health problems, giving space and emphasis according to their importance statistically, might be a better method of approach. There is just enough space given to anatomy and physiology to lend clarification to the work which includes excellent chapters on allergy, first aid, immunology, heredity and endocrinology. Throughout the book the author stresses the importance of early consultation with one's physician.

The discussion on mental health is simple and timely. Generally dispassionate in approach, the author errs perhaps when she decries the twin evils, tobacco and alcohol, to the point of moralizing about them. The book would have been better had Dr. Etheredge contented herself with presenting just fact rather than some fact and much propaganda.

While Dr. Etheredge tries to simplify medical and scientific terms, the vocabulary occasionally seems unnecessarily esoteric. The arrangement is splendid, and the bibliography, while brief, is excellent. The diagrams hardly measure up to modern trends in textbook illustrating.

Her long experience in advising college students in personal and community hygiene has made Dr. Etheredge an authority in this field. Her book offers them a sound discussion of health problems. The third edition of her work, published first in 1933, indicates its rather wide acceptance. Those familiar with the second edition will be pleased to note the addition of two new chapters, "Smoking and Narcotics" and "Diseases Conveyed by Insects."

WILLIAM B. BROWN, M.D.

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"Now drink your milk, Junior, and one of these days you'll grow up and be big and strong—like Mama."

The Art of Being a Person

By George Ross Wells. Cloth. Price, $2.50. Pp. 300. New York: D. Appleton-Century Company, 1939.

This book is rather well written and interesting, particularly to the person who has not given much thought to matters of this sort. The author is especially concerned with the matter of attaining poise and contentment with one's lot. He writes convincingly concerning the desirability of attaining this state of mind, but it is doubtful if the subject matter would go far in helping one to attain these desirable qualities provided he were constitutionally of such a nature that he did not attain them easily. In other words, I doubt if any individual who was badly upset and out of adjustment would, by read-

Goldilocks *and the* Three Bulbs

1 ONCE THERE WAS a little girl named Goldilocks who got a book for her birthday. And when she sat down to read it, she put a 25 watt bulb in her little table lamp, but that was *too small.*

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● **The Association publishes** the *Journal of the American Dietetic Association*, monthly, and bi-monthly June to September. The subscription rate is $3.00 per year; single copies, 50 cents.

TOPICS TO BE INCLUDED IN THE JOURNAL DURING 1940:

Elimination Diets in the Treatment of Food Allergy
A New Method of Preparing Beef Nutrients
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Diet and Resistance to Tuberculosis
The Endocrine Glands and Metabolism
New Dietary Trends in Gallbladder Disease
The Economics of Food Distribution
Menu Planning and Food Cost Control

THE AMERICAN DIETETIC ASSOCIATION
185 N. Wabash Ave., Chicago

ing this book, find much that would straighten him out. However, it is a thought-provoking book and well worth its price and the time that it takes to read it.

THURMAN B. RICE, M.D.

Attaining Womanhood

By George W. Corner, M.D. Cloth. Price, $1. Pp. 92. New York: Harper & Brothers. 1939.

Brevity, clarity, completeness and absence of sensationalism recommend this book for the use of adolescent girls and for their parents who wish to gain a sound factual basis on which to meet the questions and the discussions of their daughters. There are only ninety-two pages, and three of these are devoted to a list of additional sources of information. But every bit of information that an adolescent girl really needs is in these pages, and there is nothing extraneous. The arrangement of the book is interesting in that it defers discussion of the menstrual function until a thorough basis for it has been laid, instead of starting off with this subject. Enough information about boys is included so that the girl need not have any unsatisfied curiosity. The venereal diseases are discussed with appropriate brevity and saneness. The book deserves a hearty recommendation.

W. W. BAUER, M.D.

Education for Christian Marriage

Edited by A. S. Nash, M.A., M.Sc. Cloth. Price, $2.50. Pp. 304. New York: The Macmillan Company, 1939.

This book is written by some twelve or fifteen English churchmen. It has a foreword written by the Archbishop of York and is therefore to be considered as being extremely orthodox. Its purpose seems to be to show how a married couple can indulge in marital relations without going against any of the dictates of the Christian religion. Ministers who wish to advise their parishioners in matters pertaining to religion and their family life will find the book useful, as it contains ecclesiastical justification for a number of things which have been viewed askance in the past. Within the limits mentioned, I can recommend this book. It seems to be accurate from a scientific point of view and certainly goes to great pains to justify itself religiously.

T. B. R.

Nutrition

By Margaret S. Chaney, Ph.D. and Margaret Ahlborn, M. S. Cloth. Price, $3. Pp. 436. Boston: Houghton Mifflin Company, 1939.

This is the second edition of a widely used and deservedly popular textbook on nutrition in which the chief emphasis is placed on human food requirements. In addition to discussions of specific requirements for energy, protein and the various minerals and vitamins, the book includes chapters on methods of judging good nutrition, the hygiene of the digestive tract, food needs in pregnancy and nursing, methods of obtaining optimal nutrition during infancy and childhood and the selection of an adequate dietary for children and adults. To keep pace with the rapid advance in the knowledge of nutrition in the five years since the first edition appeared, much of the text, particularly the vitamin chapters, has been rewritten. Each section has been brought into accord with the newest knowledge of the subject under consideration, and its public health aspects have been emphasized.

The book is written in an easy, readable style which assumes a minimal background of physiology and organic chemistry. It is also attractively illustrated with numerous photographs and charts which add interest and clarity to the discussion. Both appendix and text contain many useful tables of food values. Each chapter is followed by a list of practical problems and laboratory exercises well designed to arouse interest in working out dietary problems. Although intended primarily for use in college and university classes, this book also should be of value to the general reader who seeks a clearer understanding of his own and his family's dietary needs. Thoughtful reading of systematic and authentic discussions of this type should help to clarify much of the confusion created in the public mind by pronouncements of food faddists and others inadequately trained in the science of nutrition.

RUTH C. CLOUSE, Ph.D.

The New Archery

By Paul H. Gordon. Cloth. Price, $3.50. Pp. 423. New York: D. Appleton-Century Company, 1939.

Here is a manual for devotees of archery that will outlive many others, for its completeness, its approach to the subject and its authenticity lift it above the rank

and file of "how-to-do-it" books. Its audience will include teachers, for whom an organized program is presented, with which they can build an archery appreciation unit; it will also include beginners who seek a short-cut to learning the lore of the sport, and it will appeal to the advanced archer, who will find therein a lucid explanation and sourcebook for reference at any time a question arises. Directions are given for making all kinds of bows and arrows.

SIBYL WINSER JOHNSTON.

Functional Disorders of the Foot

By Frank D. Dickson, M.D., and Rex L. Diveley, M.D. Cloth. Price, $5. Pp. 305. Philadelphia: J. B. Lippincott Company, 1939.

The authors of this book have made a real contribution toward bringing together the public and the medical profession for the care and treatment of the common types of foot disorder. It embodies all the newer studies that have been made on the subject along with the results of the authors' own extensive experience as orthopedic surgeons.

They have departed definitely from the staid orthodox views which have failed, in past years, to sustain general medical interest in the foot and which have permitted patients to seek relief largely from unqualified, nonprofessional agencies. Nevertheless the departure has been accomplished conservatively and in a manner to add new life and interest to the subject.

Foot disorders are one of the most common forms of physical ailment, and this book is strongly recommended for its practical value.

DUDLEY J. MORTON, M.D.

Asthma: Symptoms, Causes and Cures

By Adrian Vander, M.D. Cloth. Price, $1.50. Pp. 95. Illustrated. New York: Fireside Press, 1939.

This book intended for the lay person interested in asthma, is written in a clear, simple style. The diagrammatic illustrations of the anatomy of the lungs are excellent. The book would be acceptable, if the author had limited himself to the photographs. But the ideas expressed regarding asthma vary greatly from those recognized by authorities on this subject. Dr. Vander believes that asthma and all other conditions on which he has written (rheumatism and gout, disorders of the intestines) are due to

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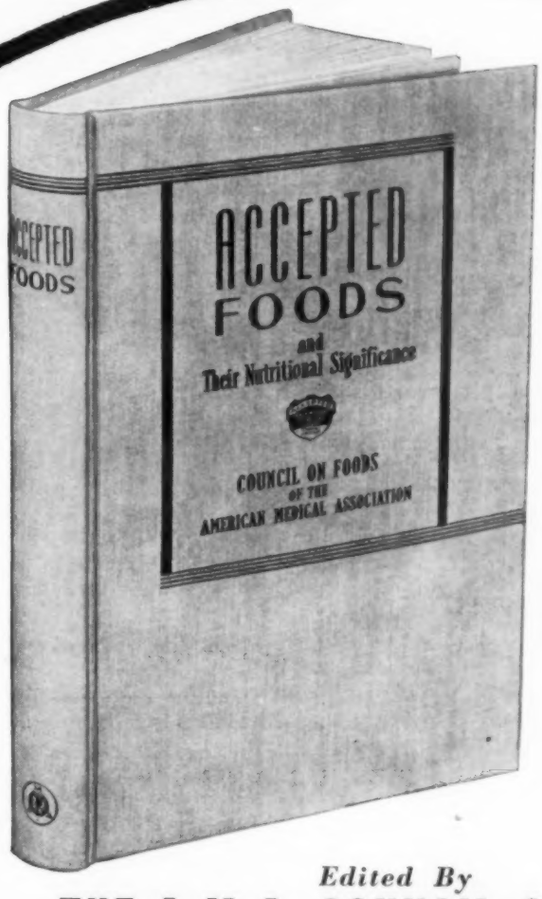

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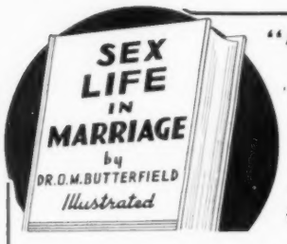

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—American Journal of Digestive Diseases.

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—Health News, *New York State Dept. of Health*.

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accumulations of poisonous products in the body.

He devotes most of the book to a description of methods of treatment, from which he permits the patient to select that particular means which the sufferer believes is best for his condition. The remedies are limited to proper bowel and kidney elimination, the use of various types of partial and complete baths and the prescription of a combination of multiple herbs, blossoms, flowers and leaves. One of these recipes contains ten different plants. One of the most interesting of the partial baths recommended is the "Vital Bath." In this, the abdomen is rubbed from the navel downwards and from right to left, with a rough towel. The rubbing is extended to the zones on both sides of the genitalia and between the anus and the genitalia. The author states: "Sometimes, transitory inflammations and eruptions may break out at the place of the rubbing, but only in a severe treatment, applied several times a day. These are proof of a good reaction, since they are caused by secretion of the diseased matters." It would appear to a critical reader that this is merely the result of injury to the skin from excessive rubbing, rather than from the excretion of harmful materials. The book is full of this type of fallacious reasoning. BEN Z. RAPPAPORT, M.D.

Speech Correction: Principles and Methods

By C. Van Riper, Ph.D. Cloth. Price, $2.50. Pp. 434. New York: Prentice-Hall, Inc., 1939.

This is one of the best books available on the general subject of speech disorders, being a comprehensive and exhaustive discussion of speech and its disorders. It has fifteen chapters which include the nature and development of speech, the articular and vocal speech disorders, the speech disorders caused by organic disease such as aphasia and a discussion of the cause and treatment of stuttering. Various speech tests are described and discussed.

The style is clear and simple. In discussing the causes and treatment of the various speech defects, especially stuttering, in which there are many points of view, the author presents each one clearly, definitely and fairly. The discussion of stuttering is especially illuminating, to which the author adds his own type of treatment which he has used successfully in his clinic at the Western State Teachers College in Michigan.

The book is made even more valuable by a bibliography attached to the end of each chapter in which the various articles and books on speech development, speech disorders and the treatment of speech defects are listed. He has read and listed practically all the worthwhile articles and books on this subject which have appeared to date.

I can heartily recommend this book. No teacher of speech correction should be without it. It also would be helpful to physicians who are called on to treat children or adults with speech defects.

SMILEY BLANTON, M.D.

What's Your Allergy?

By Laurence Farmer, M.D., and George Hexter. Cloth. Price, $2. Pp. 234. New York: Random House, Inc., 1939.

This book is a history of clinical allergy from the earliest investigators to the present time. It attempts to explain in everyday terminology "what allergies are" and "how they may be combatted." The various ways in which allergic disease manifests itself are presented, and the modes of treatment are discussed.

Perhaps the most important lines in the book are ". . . it behooves patients to work closely with their physicians in order to determine as nearly as may be possible what their tolerance level is, and having found it, to keep their exposures safely below the danger point."

TOWNSEND B. FRIEDMAN, M.D.

NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the complete addresses where the publishers mentioned in these reviews may be reached:

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Fireside Press Division, Chemical Publishing Company, 148 Lafayette St., New York City.
Harper & Brothers, 49 E. 33rd St., New York City.
Houghton Mifflin Company, 2 Park St., Boston.
J. B. Lippincott Company, 227 S. Sixth St., Philadelphia.
The Macmillan Company, 60 Fifth Ave., New York City.
Prentice-Hall, Inc., 70 Fifth Ave., New York City.
Random House, Inc., 20 E. 57th St., New York City.
W. B. Saunders Company, West Washington Square, Philadelphia.

Open Letter to Mother about EYES!

MOTHER: We address you . . . for isn't it *you* who watches over your family's health? Husband or youngster too often ignores early signs of illness. But *your* glance at a flushed face, your touch to a feverish brow, brings out the thermometer. It is *you* who, if necessary, summons the doctor.

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Only a competent examination can tell if eyes are working without undue strain. If you have any question about your loved ones' eyes . . . or your own . . . why not make an appointment now? (If any member of your family already wears glasses, eye examination is necessary at least once a year.) Good vision, Mother, makes for better health and happiness.

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DEADLY DISEASE NUMBER 1

(Continued from page 108)

cases congestive failure. Every case must be judged for itself; some patients die during the rheumatic infection due either to its severity or to heart failure resulting from the muscle involvement. Others survive the acute infections to die in middle age from heart failure; while some, fewer than the others, survive to old age, despite the presence of heart disease. The prognosis depends on the amount of damage already present and the existence and degree of activity of the rheumatic infection.

High blood pressure, the cause of which is still obscure, acts eventually to produce enlargement and failure of the left ventricle, the chief pumping chamber, if the blood pressure is high enough for long enough. Present research shows that definite causative factors are now being recognized in certain kidney diseases, disorders of the internal glands and congenital narrowing (coarctation) of the aorta.

Coronary artery disease (arteriosclerosis), the cause of which is also still obscure, reduces the blood supply to the heart muscle and produces angina pectoris as a periodic symptom, or it may actually destroy part of the heart muscle if one of the vessels is obstructed by a blood clot. This is called coronary thrombosis and is a common ailment among professional and business men of middle age today. As in the case of rheumatic heart disease and hypertension, so here also the extent of physical limitation and the prognosis depend chiefly on the degree of damage, especially as it affects the size of the heart: the bigger the heart, the worse the future. Some patients with coronary disease die in a few seconds in their first attack. Most, however, live quite a few years, and a few survive twenty years or longer.

Syphilis of the aorta tends to produce a large sac or aneurysm without any heart disease per se; but occasionally it involves the aortic valve, resulting in leakage [regurgitation], cardiac enlargement and secondary heart failure; or it may affect the mouths of the coronary arteries, hazarding life itself.

Subacute bacterial endocarditis, in the past an almost invariably fatal disease, is a long drawn out infection of the endocardium and valves by the bacterium Streptococcus viridans. It is almost always engrafted on chronic rheumatic lesions, especially old scarred valves, or on congenital defects. New treatment promises to effect an occasional cure.

There are a few of the lesser causes of heart trouble that should be mentioned ahead of the host of minor or rare etiologic factors. They include thyrotoxicosis [or exophthalmic goiter], steadily decreasing as a source of strain these days; myxedema, due to too little thyroid secretion; pulmonary disease—usually there must be found extensive scarring or fibrosis in the lungs before the right ventricle of the heart is put under enough strain to enlarge and fail, and severe anemia, which may cause considerable enlargement of the heart (by dilatation) associated with many murmurs. Diphtheria and acute bacterial endocarditis also fortunately belong among the rarer factors; the former a scourge of past generations, is now being diagnosed and treated by antitoxin so early that serious myocardial damage from it is now rare; the endocarditis even now is generally rapidly fatal in the course of a few days or weeks, except when sulfapyridine is used, and is due to any one of many different germs which may produce the disease (Streptococcus haemolyticus, pneumococcus, gonococcus and others).

Appearing as secondary factors in heart disease, rarely as primary, are a number of diseases, such as lack of vitamin B, which in extreme cases gives rise to beriberi; trauma—a healthy heart is rarely damaged by an accident, but an already diseased heart may be easily damaged thereby; a variety of infectious diseases like pneumonia, influenza, typhoid, tuberculosis and rarer infections, tumors, the more infrequent endocrine disorders, such as acromegaly, and blood diseases, such as leukemia. Certain popular conceptions of the past, like those of the so-called athletic heart and beer heart, have not been substantiated by scientific studies. Most "athletic hearts" are something else, at times mere overtraining or nervous reaction such as we found in so many soldiers during the World War and which we called the "soldier's heart" or neurocirculatory asthenia; the men so affected had no actual heart disease, nor did they develop more than the expected amount in the twenty years that followed the war, even though their neurocirculatory asthenia was at times really disabling. It was not due to a disorder of the heart. It is possible that rarely heart strain and enlargement may actually result from athletics even in a healthy person, if he is not in good training and has been born with a less efficient circulatory apparatus. More study of this problem is needed.

Structural Changes in the Heart

Enlargement of the heart was the first cardiac abnormality noted several centuries ago. It remains one of the most important findings today for it means that there must be considerable strain from one or more factors to produce it. Practically any of the causes of heart disease thus far enumerated can make the heart enlarge. Acute dilatation was once considered common; then, in recent years, it was rather scorned; but now careful studies show that it does occasionally occur, particularly in severe acute rheumatism and in severe coronary thrombosis and rarely in excessively rapid racing of the heart and in great physical strain when the heart is already damaged. There is a useful adage that runs, "The larger the heart the worse the future; the smaller the heart the better the future."

Valvular disease is most commonly due to rheumatic fever in New England, to syphilis in the Deep South. Occasionally it consists of calcification—a stony change, which may be superimposed on an old infection. And finally, it infrequently results from an acute or subacute invasion by any one of a variety of germs. In scarred form the damaged valve may be leaky [regurgitant] or narrowed [stenosed] or both. It is not enough to say that there is a leaking valve; we must know how much leak there is. Slight regurgitation is unimportant and compatible with a long life and full activity; a large leak, especially of the aortic valve, means great strain on the heart and results as a rule in great enlargement and early failure.

Damaged valves give rise to murmurs, but the presence of murmurs does not necessarily mean that the valves are damaged. In fact, most murmurs are due to dilatation of the heart chambers with resulting valvular insufficiency without any actual damage of the valves themselves. Many murmurs are entirely unimportant. Great skill must be exercised in the proper interpretation of them.

Disorders of Cardiac Function

Heart muscle failure, like enlargement of the heart, can come from any one or a combination of different causes, most commonly from rheumatic fever and rheumatic valvular disease, high blood pressure of long standing and high degree, coronary thrombosis with extensive scarring of the heart and severe syphilitic involvement of aorta and aortic valve. In fact, it is an axiom that the heart must first enlarge before it fails. The evidences of such failure are in congestion of various parts of the body: lungs with shortness of breath resulting, liver with discomfort in the abdomen, or legs with evident dropsy. Hence the term *congestive heart failure* results. Rest, digitalis (foxglove) and other diuretic medicines may clear away the congestive failure and hold it in check for the time being.

The other type of heart failure is sometimes called *anginal*, in contrast to congestive, and is due to insufficient coronary blood supply to the heart muscle. It may be shown by the symptom angina pectoris, which literally means a choking sensation under the breast bone, or it may be shown by certain changes in the electrical record of the heart beat, the electrocardiogram, or it may be shown by sudden death. Although there is the association of sudden death with coronary disease, most persons with the symptom angina pectoris do well for a good many years and may even get rid of the symptom in time with good care and good luck. It is always an important symptom to heed and to prevent; but it should not be regarded with undue dread, for the person who dies of his coronary disease soon after the first appearance of angina pectoris is relatively rare, compared to the great number who carry on with it for years or even actually get over it.

The vast majority of irregularities of rhythm of the heart beat are of no importance, and yet they may cause more discomfort and worry than serious heart trouble. They do not mean heart disease except in rare cases. As a rule, they are simply occasional early or premature beats or, as they are commonly called, extrasystoles, or there are brief spells or paroxysms of racing of the heart, or tachycardia. Reassurance and the avoidance of obvious exciting factors, such as fatigue, indigestion and excessive use of tobacco, usually suffice in the treatment. Drugs are rarely necessary. Exercise often helps.

Prevention of Heart Disease

Finally, we come to the most important aspect of all, the prevention of heart disease. Although this is largely a problem for the future, a start has been made. Three or four important types of heart disease have already been much reduced in incidence or even nearly wiped out by their early recognition and adequate treatment. Heart disease due to diphtheria and thyrotoxicosis [goiter] are rare indeed at the present day in a progressive community, and cardiovascular syphilis is greatly lessened—probably halved at least in the last twenty years in New England alone. Cardiac neurosis can be almost eliminated, as well as avitaminosis (vitamin lack) and severe anemia. The chief problems that remain are, to be sure, the most important causes of heart disease: rheumatic fever, high blood pressure and coronary arteriosclerosis; but every year important new facts are being learned about them, and almost certainly the time will come when there will be less rheumatic heart disease in youth and less high blood pressure and coronary disease in middle age. Congenital defects at the moment seem more of a problem, but they too may be reduced some day. But the aged with their circulatory problems, we shall always have with us and most certainly in increasing numbers as the ills of earlier life are controlled; but we may be able to advance the age of retirement and senility a decade or two and hope for a sudden release when that age is reached.

It seems sure, meanwhile, that there are certain sane and long

(Continued on page 191)

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QUESTIONS AND *Answers*

First Aid Treatment of Burns

To the Editor:—What preparations for first aid can be recommended for second and third degree burns suffered by persons fighting forest fires? Physicians are long distances away from the scenes of the fires, so their advice is not available.

S. L., Washington, D. C.

Answer.—Relative to the first aid treatment of severe burns, a spray unit for standard tannic acid solutions is not recommended to be included in a first aid kit. The tannic acid treatment by spray, wet dressings or ointments is an effective treatment, but it should be administered under carefully supervised conditions, and it is not advisable to attempt to spray burns as an emergency measure. In the emergency treatment of burns, the most important early consideration is the relief of pain and the treatment of shock. When an individual suffers an extensive burn, no attempt should be made to remove clothing. He should be covered with warm blankets and an effort made to conserve body heat. Warm fluids should be given by mouth. Pain should be relieved by adequate doses of a carefully chosen sedative. In very serious cases the patient may be immersed in a tub of warm water, the temperature of which is from 95 to 100 F. This is done without removing the clothing. This procedure has the effect of supplying external heat and also of allaying pain.

When extensive burns occur on uncovered areas they are best treated as an emergency measure by the application of large wet dressings of sodium bicarbonate solution, 10 per cent. Sodium bicarbonate may be kept in the emergency kit in any amounts which, when mixed with stated amounts of sterile water, will give the proper solution. For instance, 100 grams of sodium bicarbonate to one quart of sterile water makes a 10 per cent solution. The application of a wet dressing of this type does not interfere with the subsequent treatment of the wound by other methods which the attending physician may prefer. For burns involving the hands, fingers or face, or for relatively small burns involving other areas of the body, an excellent first aid remedy is butesin picrate ointment. This should be applied in generous amounts and loose, fluffy dressings superimposed on it.

As to the relative merits of tannic acid solutions and tannic acid jellies, solutions are far superior to the jelly. The jelly makes a good emergency treatment for relatively small burns, but it is not superior to butesin picrate ointment for this purpose. Tannic acid powder should be kept dry, but it is not affected by atmospheric conditions. Solutions should be freshly made up, as they undergo chemical change on standing. The application of tannic acid solutions does not result in shock, unless the patient is injured by the removal of clothing from the burned area before the solutions are applied.

Leprosy

To the Editor:—How adequately do public health services and private agencies care for leprosy? Urgent appeals for funds for the treatment of leprosy in the United States and foreign territory come constantly to members of church organizations, especially to

Brown Bros.

Fire fighters in forest areas need directions for first aid in cases of severe burns. The most important early consideration is relief of pain and treatment of shock.

women's groups. One is tempted to wonder if the emotional appeal of this illness so closely associated with Biblical peoples and history is greater than present conditions actually warrant.

F. D. S., Indiana.

Answer.—The Leonard Wood Memorial Foundation confines its activities wholly to leprosy work, chiefly along the lines of furnishing research workers and equipment for study and investigation of the disease.

In the continental United States, the care and treatment of persons suffering from leprosy are provided for by Act of Congress of Feb. 3, 1917, establishing a National Leprosarium located at Carville, La. Appropriations made by Congress and administered by the U. S. Public Health Service are adequate to provide patients with the necessities of life and some luxuries at government expense. The government does not provide funds for religious activities, other than furnishing subsistence and laundry to chaplains, and the heat, light and maintenance of chapels and living quarters of chaplains.

In the Territory of Hawaii, the territorial government maintains practically the same facilities just enumerated for the care and treatment of those suffering from leprosy.

In other parts of the world, there are increased activities looking toward, or providing for, governmental agencies for the handling of the leprosy problems. However, in many countries, particularly in the Orient and in parts of Africa, the only care and treatment that lepers receive comes through Christian missionaries. In this activity, the American and British Missions to lepers and the British Empire Leprosy Relief Association are the leading organizations.

As to appeals for funds for the actual treatment of leprosy in the United States, it is felt that ample provision is already made by the federal government. Appeals, especially to church organizations, for funds to carry on some adjunct or strictly religious work among leprous patients, such as providing of Christmas presents, are desirable. Appeals for funds to be used in foreign fields should be given sympathetic consideration for the reason that where government provisions are lacking or inadequate,

Fighting Another Plague

COUNTLESS AMERICANS TODAY have enlisted in the fight against a great plague—syphilis. They have learned that syphilis can be *cured* and syphilis in the newborn *prevented*—by prompt, proper treatment.

▶ Thanks to this national awakening, *two and one half times* as many cases were reported for treatment in 1938 as in 1928, according to information from the U. S. Public Health Service and private physicians all over the country!

And more Americans now than ever before realize that, while syphilis may be acquired innocently, no one need remain in doubt as to whether he or she has syphilis. They have learned that a thorough medical check up, including blood test and microscopic examination, reveals the truth to the skilled physician.

▶ So in 1938, *five times* as many blood tests for syphilis were made as in 1930!

Every thoughtful citizen, naturally interested in stamping out this menace, should know and help to make known the following cardinal principles concerning syphilis:

1. **Prompt recognition of the disease is vital.**
2. **There is as yet no practical short-cut treatment.**

Self-treatment, non-professional treatment, quack remedies are worse than useless. The guidance of a reputable physician is the first dependable step toward real cure. Proper treatment consists of a systematic series of injections given by a competent doctor over a period of *many weeks*.

In progressive communities throughout the country, examinations, blood tests, and treatments are being made available to those unable to pay for private care. Names of doctors and locations of public health centers and clinics offering these services are readily supplied by local health departments or county medical societies.

▶ So that you may better understand the syphilis problem, let us give you additional information about this disease. For the free Metropolitan booklet, "The Great Imitator," write to Dept. 240-Z.

* * *

February 1st Is Social Hygiene Day: American Social Hygiene Association Headquarters, 50 W. 50th St., N. Y. C., will gladly send you literature and full particulars.

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the number of persons afflicted with leprosy is usually too large for any one organization to handle satisfactorily. Under such conditions, philanthropic organizations are usually the only agencies that furnish any relief to the sufferers.

The appeal of leprosy to the emotions of the listener is probably greater than actual conditions warrant because of a highly exaggerated, almost universal "lepraphobia" which has as its basis the erroneous belief that leprosy is *extremely* contagious. Even modern encyclopedias pass this error along to present and future generations. For centuries, lay writers on leprosy have dwelt at length on the worst features of the worst cases of the disease, and such descriptions have also crept into appeals of some philanthropic organizations for funds. Since, however, such organizations supply the only means of assisting the unfortunate in many lands and their funds are wofully inadequate, they may plead that the "ends justify the means." Furthermore, they may justly claim that the urgency of their appeal for support cannot be overemphasized, if we consider the social and psychologic disaster that overtakes most leprous persons when the diagnosis is established and in consideration, further, of the tremendous number of cases of leprosy in many countries.

Memory for Numbers

To the Editor:—Is it better to remember numbers as they are first heard, or to think of them as they are in print as in a telephone book? Which is the best system to remember twelve digits at one time?

B. O., Minnesota.

Answer.—There is no so-called "better" system for the retention and recall of a series of digits, for the reason that the most effective method varies among individuals. For the person having greater visual acuity or a photostatic type of imagery, the printed series will be most easily retained. For the individual having greater auditory acuity, the spoken series is most readily recalled. In both instances, grouping the numbers in a series of twelve in either threes or fours as they are read or spoken is a definite aid.

Oily Hair

To the Editor:—My hair is washed at least biweekly, and within forty-eight hours it looks as oily as it did before. Frequent brushing appears only to increase the oiliness. What do you suggest?

M. P. J., Illinois.

Answer.—It is not possible to reduce the amount of oil secreted by the sebacious glands. The usual advice is to use one of the popular synthetic liquid soaps for shampoo, because they leave the hair drier than the other soaps made from fats and oils. The sebaceous glands are independent organs and their pattern of secretion varies with individuals, the same as any other organic function. During the fourth decade of life the sebaceous glands usually secrete less than before this time, but this is true of most of the secretory organs of the body.

Shampooing the hair once every other week is a good average, but some excessively oily hair may be benefited by more frequent washings.

Eyes

To the Editor:—What does the rating of 20/20 —2 for my right eye mean? Does this rating warrant wearing glasses? Can this be adjusted so I will have 20/20 vision?

N. A., Wisconsin.

Answer.—Previous to the middle of the nineteenth century, oculists tried to express visual acuity (the sharpness or degree of vision) by a variety of means. There was no uniformity of measurement or of expression. In 1862, Herman Snellen, professor of ophthalmology in the famous eye clinic at Utrecht, Holland, suggested the test type and the method of use now universally adopted. The test card consists of a series of lines of letters, each line being of a given size. The letters on the so-called normal or standard vision line were so calculated that the rays of light from the top and bottom of the letter coming to the back of the human eye formed an angle of five minutes. When this line could be read by an eye at the distance of 20 feet, that eye was said to have a visual acuity of 20/20. That does not represent a fraction, but merely an expression which to the trained invidual means that the eye can read at 20 feet, letters of the size that should be read by the normal eye at that distance. The lines of the test card are graduated mathematically in size, and the expressions correspond, thus 20/30, 20/40, 20/50, etc. The trained individual recognizes that the expression 20/50, for example, means that the eye can only read at 20 feet, the letters of the line that should be read by the normal eye at 50 feet.

Inasmuch as each line of the Snellen test card contains numerous letters, it has become habitual to indicate the vision of a given eye as 20/20 or 20/50, minus the number of characters on that line that the eye fails to recognize. Thus 20/20 —2 means that the observer could read all the normal or 20/20 line except two letters. That indicates an extremely slight deviation from full normal vision and in itself does not indicate the necessity of glasses. Only a careful examination of the refraction of the eye could determine whether or not glasses were needed for other reasons, but not for the 20/20 —2.

Vision itself cannot be adjusted. However, the fine acuity of vision will vary slightly from day to day and from hour to hour depending on innumerable circumstances. Slight changes in the conditions surrounding the examination, such as the intensity of the light, will cause ups and downs in visual acuity, so that it is probable that you will have 20/20 full, or even plus 2 instead of minus 2, on another occasion.

Catarrhal Deafness

To the Editor:—Will you please advise if the new x-ray treatments for catarrhal deafness are approved by ear specialists?

R. M., Massachusetts.

Answer.—The treatment of so-called catarrhal deafness by the x-ray is not generally accepted or approved by otologists. While improvement in the hearing following x-ray treatment has been reported by some authors, the number has been limited and makes it impossible to justify the acceptance of this method for general use until more extensive authoritative data are available.

Vitamins in Milk and Bread

To the Editor:—What becomes of the vitamins in milk when it is boiled and put in cans commonly called evaporated milk?

There are three kinds of vitamins in yeast. Are there any vitamins in baked bread made with yeast?

J. E. B., Rhode Island.

Answer.—Fresh milk is valuable as a source of vitamins A and G. These factors are not destroyed by heat, and hence they are found in evaporated milk. Sometimes vitamin D is added to the milk, and this vitamin also is resistant to destruction by heat. There is some vitamin B_1 in milk, and there is evidence that this factor is destroyed to some extent by heating.

There are vitamins in baked bread, but only a fraction is derived from yeast because of the small amount of yeast that is used. The vitamins of bread are principally B_1 and G, with a little vitamin A, and these factors come largely from the wheat flour and skimmed milk solids which are part of the dough.

Hair

To the Editor:—I would like to know why a Negro's hair is kinky and an Indian's straight, and why is a white man's hair sometimes straight and sometimes curly?

A. F., New York.

Answer.—At the scalp, the sheath for kinky hair is curved like a comma; the sheath for straight hair is straight. The shaft of the hair is flattened in kinky hair and round in straight hairs. Naturally curly hair in the white race assumes a point midway between the kinky and straight hair. The white race is the only race with both straight and curly hair. Other races have either one or the other.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

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the card she had given Deemie under her desk blotter.

"I hate to go against Cousin Zulie, but I can't stand it not to," Deemie had written. "Please come get me. I want to get started being Demetria."

Miss Jackson looked at the six day old postmark, and her heart sank. The postal must have been delivered when she was out of the office. Perhaps to keep it from being disturbed by the breeze from the window it had been slipped part way under the blotter and later jostled out of sight.

Tuesday was her busy day. She went into Dr. Dalton's office and showed him the card. "Among other things," she said, "I'm supposed to be at the Woman's Club at 3 to tell them how they can help in our plans for the preschool check-ups, and I don't know when I can get them to give me the time again, but I'm canceling everything. I can't risk waiting."

Dr. Dalton agreed. "Maybe I can take care of the club. I haven't had that Deemie off my mind since I saw her. And now's your chance. As soon as school is out Children's Hospital will be full up."

"They told me last week they weren't rushed."

"I'll phone," he said, "and ask them to hold a bed until they hear from you."

"I think there's nothing to worry about but getting her there," Miss Jackson said.

The doctor nodded. "She'll be a good patient, and by the time that magician has done her face over she won't believe she's Deemie."

Miss Zulie had seen the car coming in time to be at the gate.

"You were slow coming," she said. "I don't know that Deemie feels the same way now she did when she wrote you."

Miss Jackson got out of the car. "I'll run in and see her."

THEY NAMED HER DEMETRIA (Continued from page 137)

"No, I'll go myself," Miss Zulie said, already on her way to the house, and Miss Jackson stood at the gate trying to feel optimistic and finding it difficult.

Miss Zulie came back alone. "I never thought, when I promised not to put in, that things could turn out like this," she said. "I reckon it'd be fair to tell you I believe now you *think* you're doing right, because if Deemie don't come back I'm going to be too unstrung to believe it then."

Miss Jackson leaned on the gate and went over it all again: what Dr. Dalton had said, what the specialist at the hospital in the city had written in reply to his letter, what remarkable success she had known him to have in much more complicated cases, how Deemie's sturdiness and patience would help and what excellent care she would have.

"A hospital's a hospital," Miss Zulie said, "and it's pore judgment not to distrust 'em."

Miss Jackson considered offering to take Miss Zulie with them and let her see for herself what the hospital was like, but decided that she'd better let well enough alone.

"You think I took Deemie because nobody else wanted her," Miss Zulie went on. "Maybe I did, and then again maybe I beat around the bush some in my talk. Anyway, when I took her is one thing, and today is another. If she don't come back—"

The front door opened, and Deemie came out with a newspaper-wrapped bundle. "I was all ready," she said, "but washing my feet."

Miss Jackson said, "Good!" She was afraid of more words.

Miss Zulie said, so low that only Miss Jackson heard, "I never was this scared before." Aloud she said, "I reckon you got your Santy Claus book?" and her voice was calm.

Deemie nodded. "If you send me a card, put 'Demetria' on it, Cousin Zulie."

"I never was much hand for cards. I hope you make out all right."

"You can have my banty. Much oblige for taking me."

Miss Zulie said, "You're welcome," and turned back toward the house. Her words sounded casual, almost mechanical. Miss Jackson was glad *that* was over. She wished there were some way of making it easier for Miss Zulie.

Deemie watched the speedometer mark off the fifth mile before she spoke. "I sure hope she won't be sick or anything."

"Oh, I hope not! She almost never is, is she?"

"Nome, but living by herself after she gets real old, it will be bad if she gets down sick."

"You talk as if you plan to be away a long time. It won't be *that* long."

Deemie brushed her hair against her cheek and looked at Miss Jackson. "Don't you know I can't come back?"

"Can't come back!"

"Nome, she took me in the first place because nobody else wanted a young one with this bad a face. I heard her tell Miss Talithy. Now when I get out of the hospital, I have to find me somewhere to work. I could wash dishes or take care of a baby or iron. I'll hate though not being settled."

"Demetria," Miss Jackson said, "we're all mixed up in a misunderstanding. The first turning-around place we come to we'd better go back."

"Instead of to the hospital?" Deemie exclaimed.

"Let's go get Miss Zulie and take her with us. There's something she'll want to tell you."

"I guess it will be the longest piece she nearly ever went."

"You must promise though that you won't let anything she says make you afraid."

"About the hospital—and everything?"

"Yes."

Deemie shook her head. "Cousin Zulie don't know about hospitals, Miss Jackson. She never was in one. Some ways, Cousin Zulie's awfully young. That's why it don't seem right for me to go off and leave her. I'm all the kin she has."

"Now, who's beating around the bush in her talk!" Miss Jackson thought cheerfully.

"Still, I had to do it. They *named* me Demetria. I wouldn't call it vain and sinful pride to want to be what you was meant to be."

The barn-lot gate at the Harvey's was open. Miss Jackson stopped and took off her glasses and wiped them. Then she backed in and turned around.

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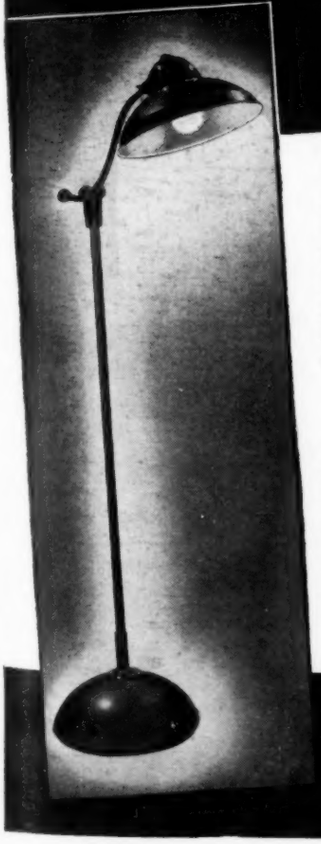

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YOUR CHILD'S SPEECH

By William I. Fishbein

THE content of the child's speech may be used as a guide, not only to the growth of his language but also to the development of his character and personality.

Children seem to pass through definite periods of growth, as far as language is concerned. There is the "babble" stage, a period during which the child makes many meaningless sounds. This has been explained as the time during which the child is merely gaining practice in the use of the speech organs. There is a period of "echolalia," during which children merely repeat after adults what is said to them. This often gives the parents concern and may be irritating. Nevertheless, it should not be regarded as a means by which the child is delaying his answer to questions or the carrying out of commands. Rather, it is only a device by which the youngster may make immediate use of a model of speech while it is still fresh in his memory.

There also occurs a "naming" stage, during which the child attempts to learn the names of persons, of colors, of objects, of everything around him. Many of the questions the child asks at this time are for the purpose of learning the names of things, and he should be given the correct ones, clearly spoken.

Language is used for various purposes. It is employed to secure information, to express desires and to give commands. Children learn early to use language for the purpose of telling a story. The last use of language which develops is for the expression of thought or reason.

Generally, in children from 18 months to 2 years of age, the power of speaking increases rapidly. Scientific studies of large groups of children indicate that the average vocabulary of infants 18 months old is something less than five words; at 2 years of age, however, a study of fifty children showed that they could use pronouns and names of colors. Sixty per cent could use complete sentences; 48 per cent employed the pronouns "I," "you," and "me" correctly; 42 per cent used the plural forms of words, and 40 per cent the past tenses of verbs correctly.

Progress in language should continue steadily. In children from 3 to 5 years of age, prepositions may be used appropriately, descriptive words are accurately employed, and before the youngster is 5 years old, he is often able to tell stories well.

Acme

Delayed or indistinct speech may be caused by imperfect hearing. Audiometer tests reveal the amount of impairment. Here the clinician uses special devices to enable the child to hear those tones with which he has difficulty.

A study of 273 young children showed that at 2 years the average vocabulary was 272 words; at 5 years, somewhat over 2,000 words.

Obviously the number of new words a child will learn depends entirely on how much conversation he hears and how often stories are read to him, as well as how much effort is made to teach him to talk.

There are a number of reasons why children may fail to progress normally in the development of speech. Deafness is one of the most frequent reasons for such retardation. It is not always easy to determine whether a child's deafness is of sufficient degree to prevent him from hearing conversation. It is not unusual for deafness in a youngster to be unrecognized for a period of several years. The child himself does not realize the existence of his defect because, having never heard well, he has no realization that he could be different insofar as his hearing is concerned. Parents may fail to discover the difficulty because the child compensates for the handicap by extra alertness. Therefore, whenever there is retardation in speech, the child should be taken to a physician for a careful examination and test of his hearing.

Defects in the vocal apparatus rarely are responsible for abnormal speech development. Even more rare is the disorder known as

"word deafness," a condition in which sounds are heard but the associations necessary to lend meaning to the sounds are not formed. Retardation in general mental development is, in many cases, responsible for slow progress in the development of language. Feebleminded children, as a rule, are delayed in speech development. Studies of superior children show acceleration in the learning of language. The fact that feebleminded children are always late in talking should not lead to the assumption that all children who are late in talking are feebleminded.

Some children are late in learning to talk because people do not talk to them enough. Children of superior intelligence may be slow in learning to talk because they are cared for by nurses who do not appreciate the need for talking to the child. The nurse, limited in expression, who may use bad grammar or a marked accent, is handicapped in aiding the child's speech development.

Children of wealthy parents may not have sufficient contact with other children to permit of normal language development. The opposite condition may also occur. Parents or nurses may talk so fast that the child cannot recognize the single words from the conversation.

Adults, when speaking to a child, should make an effort to talk slowly and to enunciate plainly. Occasionally, children do not learn to speak because there is no necessity for them to do so. They have so much attention from their parents that any object which they desire may be obtained by merely pointing to it, grunting or making some similar sound. Thus, there is no need for them to speak words in order to obtain the things they desire.

Parents who are overanxious about the child's development may attempt to force the child to speak beyond his ability or praise him too extensively for his limited successes. If the child is urged to use words which are beyond his capacity to speak or understand, he may become discouraged and make little effort to talk. It is true that children need praise for their successes. If, however, the child is forced to say the same phrases over and over again, to "show off," it may lead to self consciousness and inhibition of speech.

When children first learn to talk, they develop mannerisms and pronounce many words imperfectly. To laugh and to ridicule is unfortunate. Children hate and fear ridicule, and they quickly lead to self consciousness. The fear of ridicule may discourage the child in his effort to speak, or it may produce nervous tension that may often lead to stuttering. Stuttering may result from emotional shock, from overfatigue, unhappiness, emotional conflicts or strains. When stuttering occurs, an effort should be made to find the cause and remove it.

Nagging, calling the child's attention to the difficulty and efforts to make him speak without stuttering usually cause tenseness and make the child self conscious. They therefore, do not cure the condition but, instead, aggravate it.

There is a belief among some physicians and scientific observers that the changing of handedness may be a cause for stuttering. Practically all children are more skilled with one hand than with the other. When there is an effort to change the left-handed child to right-handedness, it is believed that nervous strain is produced which ultimately may result in stuttering. There are other writers who do not concur in this belief. Nevertheless, it seems to be unwise to force the use of the right hand if the child seems awkward with it.

Lisping is a speech disorder which consists of substituting the sound of consonants for each other. Lalling is a similar disturbance. The chief difficulty is usually with the sounds of "s" and "r." The "s" is commonly spoken as "th," and the "r" as "w" or "l." In addition, the "th" may be pronounced as "f," and the "w" as "v."

A speech condition, known as idioglossia, occurs in which there is a substitution of the vowel sounds for consonants and the various consonants for each other. Syllables which are difficult to articulate are slurred. It resembles baby talk closely but differs from it in that the grammatical construction of sentences is correct. It is believed that this type of speech disturbance is primarily the result of some defect in hearing.

Speech will develop properly if parents allow it to take its natural course, bearing in mind always the importance of speaking sufficiently to the child, but without overemphasis, and of always speaking slowly and enunciating clearly.

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WONDER STORIES of the HUMAN MACHINE

(Continued from page 144)

and by this method of providing a surplus there is usually enough to tide the machine over until fresh supplies begin to come in again. We have also noted that after a sickness is past, especially one of the so-called "wasting" diseases, such as typhoid, the patient has such an appetite that he always seems hungry. This is merely nature's way of refilling the reserve tanks.

A good deal of interest is attached to our "gas gage," for although we cannot see it as we can on an automobile, we still have an accurate one in the form of hunger sensations. Scientists are not altogether in accord as to what happens when we get hungry, but we are all familiar with the sensation. Sometimes it seems to come rather often, especially in the growing child where the fuel demands are so great that it is difficult to meet them. Here not only is the machine active most of the time, but, unlike the auto, it is increasing in size constantly and requires material not only to maintain it but to enlarge all parts steadily, until it reaches completion. Generally, it is thought that when the body needs food, the stomach begins a few short contractive movements. These have been recorded by ingenious instruments and the movements of the stomach studied during periods of fasting. This has been studied both in animals and man. It is done by swallowing a small rubber balloon, and then through an attached rubber tube, the balloon is filled with fluid. The movements of the stomach are communicated to the balloon, and this in turn registers them on a rotating drum. When the stomach is completely empty these motions begin—sometimes even before this—and gradually increase until they are violent. It is apparently this movement of the stomach walls that communicates to our recording device the fact that we are beginning to need more fuel. Various people respond to these "hunger contractions" in different ways. Some do not mind them; others have slight headaches, and sometimes one feels decidedly weak until food is again taken, provided there has been a considerable period of hunger. If a real fast follows, and the body is denied food for a considerable period, the sensations of hunger usually become acute for a time, then after two or three days gradually subside. It is astonishing how long the machine will keep going without additional fuel supply, and forty day fasts have been recorded many times. Sometimes they result fatally, but usually with careful restoration of the fuel supply, recovery has followed. Water we must have, for the body cannot long survive if entirely deprived of a supply of fluid. The water balance in the body is much more exact and delicate than that of the fuel.

As mentioned, our fuel supply is not made to order, as is that for our automobiles, and we must use some care in seeing that every element needed in this complicated and marvelous wonder machine is regularly supplied. A reasonably balanced diet does this. There must be enough, but not too much, fuel used. The appetite is not always a safe guide, as an unusual fondness for fuel may lead to an oversupply in the reserve tanks, which interfere with the freedom of movement of various parts of the machine, especially its engine. This machine does not have a limit on the capacity of the reserve tanks, and they stretch unduly at times, so we become much overweight from too great deposits of fat. Neither must there be an undersupply of fuel, especially during growth, or all parts of the machine will fail to be strong enough to carry its load.

The same judgment used in caring for a fine automobile will help much in the care of the human machine, especially regarding its fuel supply. We do not run the engine when the car is standing still just to use up fuel. But that view is sometimes held by the operators of the human machine; they do not attempt to match the fuel supply with the actual needs of the machine in productive use. Moreover, the use of the fuel in this wonder machine may be practically automatic, but it does require some care in its selection, both as to quantity and quality.

NOTE.—This series of articles is being reprinted. The articles will be available separately about three weeks after their appearance in HYGEIA for 15 cents each, postpaid. The entire series will be available in June 1940 in an attractive box file for $1 a set, postpaid.

Next month, Dr. Skinner will consider the engine of the human machine.

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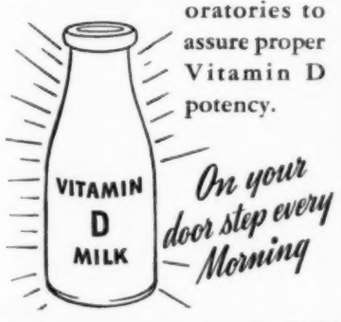

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table talk

By EMMA R. SMITH

TIME WAS when a child ate what was set before him and dared not make any preferences known. A man not so old in years tells a story of his childhood. In his family, oatmeal was considered the correct breakfast for child and adult. Each was served a large portion of it, none too well cooked. Daily the boy struggled and manfully downed the uninviting mess. Came a day when the large bowl of sticky-looking cereal was too much for his morning appetite. He could manage only a spoonful. The same cereal was served to him the next meal and the next, the mother being under the impression that her course was fine discipline for her son. On the third day, he seized his spoon, gulped all the cereal and immediately returned it to the outer world. Some parents of today try similar plans to these, thinking that forcing a child to eat certain foods or specific quantities has some virtue, though it is beneficial neither as a health nor a disciplinary measure.

There is much overemphasis on eating in many otherwise excellently managed families. The poor have little trouble with refusal of food by their children. This fact

Interest in food is increased by allowing her to help set the table.

should furnish us a valuable clue to the solution of the child's eating problems. Many food difficulties are created by the parents themselves in their anxiety to have the children build right habits. Each child is unique in some of his food needs. This condition does not, however, indicate that all his food should be radically different from that of all the other children.

Training the child in right eating habits is more than seeing that he eats merely to grow. He must learn to eat the correct foods in quantities and proportions suitable for his particular needs—whatever they may be. A study of the individual child is necessary to his adequate feeding. This study should begin with a thorough and scientific examination by a physician. Height and weight charts are helpful if made and used intelligently, but they really tell only a small part of the story. Many school examinations are so perfunctory that they furnish the parents little data of value on their child. Only findings made or confirmed by a trusted physician are reliable. The child's heredity, his general appearance, his environment and the attitudes of his family toward basic habits all have substantial bearing on the foods for him. Through study of these factors physicians and mother together can construct a working food schedule for him. All feeding habits and all successful methods depend on the mother's intelligent understanding of the needs of her particular child.

A number of seemingly unimportant factors enter into the forming of food habits. Some stomachs empty more quickly than others. When the stomach is not empty enough to promote contractions, the child will not be hungry. Eating between meals keeps the stomach too full to contract properly. The finicky eater, especially, should be prevented from taking any food—milk, fruit juice, anything—between meals. Certain foods, such as fats, nuts, milk and some fried foods, remain in the stomach longer than other foods, thus delaying its contractions.

Poor teeth and their attendant poor mastication delay the emptying of the stomach. Comfort in eating is a prerequisite of good eating habits. The child's teeth should be examined frequently by a competent dentist.

When meals are served too close together the stomach has not sufficient time for rest. On Sundays and other days when meals for adults are less regularly scheduled than usual, children sometimes suffer. Little variation in the child's mealtimes should be permitted. His routine needs the same care on holidays as on ordinary days.

Probably the most frequent cause of poor appetite is mental attitude of both mother and child. Every mother who has a food problem in her children should first give herself a test to decide just what her

Moderate portions of good foods should be served attractively.

attitude is toward the child's eating. She should judge herself honestly, but fairly. If the child knows his mother is anxious about his eating, if she fears he will not eat, if in her eyes eating has become a major problem and she feels like forcing him to eat, she must know that her attitude is one of the injurious factors of the situation. If meals are made scenes of battle over the food, if table manners are made the center of interest at each meal, the child can hardly be expected to enjoy his meals or to look forward to them with enthusiasm. Disciplining at the table during meals is likely to result in harm to the whole disciplinary plan of the parents as well as to harm in the child's eating habits. Enjoyment of food is a factor in good digestion. How can the child enjoy some of the meals of which we hear reports?

There are few human beings who at some time in life are not the victims of negativism. No man can truly say that he has never wanted

to do at least some things that were prohibited. Telling the child that he must eat, or insisting emphatically on his consuming certain foods, is a sure way to bring him to dislike and refuse those foods. He sets up a mental barrier against them, or against eating in general, and the mother has another problem on her hands.

Technic of Successful Feeding

Equipment, including chairs, table silver and dishes, should be suitable in size, durable and attractive in design.

Meals should be eaten among pleasant companions, either adult or child, in pleasant surroundings, with comfortable space.

Moderate portions of the correct food should be prepared and served in an attractive manner.

No emotional conversation about the food and no harmful excitement about anything else should be permitted, no urging, no discipline nor entertainment, except the easy flow of conversation in which the children should take a reasonable part. Any reminders in regard to manners, table habits or eating should occur before the meal.

Too much service and too much formality take away enjoyment. It increases the child's interest in the meal to have him set his own table and carry the food to it when possible.

If a dish is refused, it should be quietly removed for that occasion, without any comment, and served without comment on some other occasion. It is not imperative that Junior eat three carrots at a certain time. Variety is desirable, but there are many ways to furnish it. All the food elements necessary are easily obtained from a well balanced ration of the ordinary foods. Omission of one kind of food for short periods will probably harm the child far less than an attitude of negativism toward all food or the damaging of pleasant relations between the child and adults of a family.

If the child dawdles frequently, terminate the meal in a reasonable time, which would be thirty minutes for a child who has good teeth and is in good health. No comment and no scolding nor nagging should accompany the termination of the meal.

Discipline during meals accomplishes little good and makes the meal unpleasant for the whole

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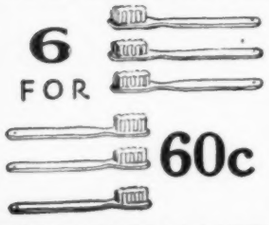

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family. Discipline in regard to eating should, for the most part, be indirect. Arguments about food or eating should never be indulged in. In no other situation is the relation between parent and child shown so clearly as it is over the eating problem. If the child habitually rebels against the demands of the parents, he will, of course, make food a controversial matter. In fact the bright child will see in the food situation an opportunity to gain for himself satisfying attention that he has not been able to obtain in any other way. His mother's fear that he will fail to eat will be used as a lever to secure what he wants.

Early and careful planning prevents the formation of wrong eating habits. One of the mysteries of life is that mothers do not realize what a creature of habit each baby is. Few realize how early the child falls into set ways of doing things. Before he is 6 months old, the baby knows he can attract attention by refusing food. Negativism can show itself even earlier. If the baby is well—of course no normal person will attempt to discipline a sick child—going without food for a few hours, even for a day or two, will not harm him physically and may improve his attitude mentally. The mother must, however, make up her mind to persist, or her efforts will result in harm rather than good. If her heart softens and she advances the time of feeding, her cause is that much harder to win.

Correct eating habits are formed exactly as all correct habits are formed. The best beginning is the interest of the child. He must want to do what the mother wants him to do. His cooperation gained, the project is assured success. The two great aids beside the child's cooperation are his hunger and his appetite. Hunger will not occur when the stomach has food in it. Strict adherence to a well planned schedule will contribute greatly to a child's eagerness to eat. When he is hungry he *wants* food. The *desire* for food, called appetite, can exist without hunger. Hunger, however, stimulates appetite. The thought of food, the habit of taking it at certain times, fresh air, exercise, physical well being and a serene environment are all important factors in building the right eating habits which play so powerful a part in developing a wholesome personality.

Thirteen Died in 1939 Fourth of July Fireworks Celebration

Thirteen deaths, five fewer than in 1938, were directly due to the 1939 celebration of the Fourth of July with fireworks and other explosives, according to the American Medical Association's survey recently published in its *Journal*.

The total number of injuries recorded as due to fireworks was 5,560 as compared with 7,933 in 1938. Reductions in both deaths and injuries, the report points out, can be largely attributed to a new statewide law banning fireworks in Pennsylvania, a state whose 1938 record was extremely bad. Whereas, in 1938 six deaths and 1,702 injuries due to fireworks in this state were recorded, no deaths and only eighty-five injuries were recorded in 1939.

The effect of adequate legislation, satisfactorily enforced, is also shown by the records of Utah and West Virginia. A new Utah law resulted in a reduction of injuries from eighteen in 1938 to five in 1939. West Virginia, which also enacted new legislation, had forty-one injuries and one death in 1938 but recorded no casualties whatever the following year.

Environment May Be Contributing Factor in Cause of Cancer

Environment may be a contributing factor in the cause of cancer, Joseph W. Mountin and Harold F. Dorn, Washington, D. C., conclude in a study, published in *The Journal* of the American Medical Association. The study shows a wide geographic variation in the occurrence of cancer.

From a study of death certificates and reports of cases under treatment, using the 1930 census as a basis of population, the two men found that the death rate as well as the incidence of various types of cancer varies widely in different parts of the country.

"The explanation of these differences," they say, "must await further investigation into the causes of cancer. However, the existence of significant differences not only in the total amount of cancer but also in types of lesions indicates that contributory factors, perhaps multiple and varied, may be found in the environment."

MEDICINE IN THE NEWS

THE new radio program "Medicine in the News" has already had a wide response in its three short months on the air. The universal appeal of medical progress to the interest of listeners everywhere is evidenced by the letters received from various sources.

A lady from Canada writes us asking that we make a diagnosis from a list of symptoms which she gives. This, of course, we cannot do. This listener misinterprets the purpose of medical news broadcasts. They can never take the place of the doctor's advice, and they are not intended for that purpose. They are meant to acquaint listeners with the fact that medical science is constantly progressing and to give a general idea of the directions in which this progress is leading. The application of medical progress to the needs of a particular patient must always be made by a doctor who has seen that patient, examined him, become acquainted with him, observed him from time to time and thoroughly learned the patient's needs.

Still another lady from Canada asks for a simple definition of terms which her doctor used and which she did not fully understand. This we were glad to give her, subject to the understanding that we expressed no opinion with respect to the patient to whom the doctor referred, because we had never seen or examined the patient.

The Commissioner of Education of the Government of Puerto Rico asked for an opportunity to study the scripts of Medicine in the News, and although these scripts are not available for general distribution, we were glad to send them to the commissioner. We have a few copies of each script, which are available on a loan basis to persons engaged in health education. We do not reproduce these scripts for general distribution, because they are bulky, expensive and of little use outside the radio studio or in a school.

A listener in Dublin, Ireland, tuning in on the short wave from station WGEO in Schenectady, heard the announcement of a new treatment for a hitherto stubborn inflammation of the lining of the heart and wrote immediately for more information, which was promptly sent him.

A listener in Birmingham, England, who tuned in on the short wave, gave evidence of the universal interest in complexion troubles of the adolescent. He heard our "question of the week" on November 9, which dealt with acne, the plague of youth, and he wrote us about it. We sent him information, though this was undoubtedly available through English physicians. Another listener in Cornwall, England, also heard the question about acne and wanted the answer, which he received by return mail.

Owing to a number of communications from our listeners, we have changed our method of presenting the "question of the week" and its answer. Instead of asking the question one week and answering it the next, we are giving the answer immediately following the question.

Programs to come are difficult to predict when we endeavor to deal with current developments in medical news. In a general way, we can predict that future programs will deal with research on important subjects of current interest which are always producing news, such as the rabies situation in the United States, hospitals and their relationship to the people, progress in industrial health and the new branch of medicine, geriatrics, the health of those in advancing age.

We invite listeners to tune in on their nearest station of the Blue network of the National Broadcasting Company each Thursday at 4:30 p. m., Eastern standard time (one hour earlier central time, etc.), for the latest in medical news.

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WJZ	New York
WMFF	Plattsburg, N. Y.
WSAN	Allentown, Pa.
WLEU	Erie, Pa.
WKBO	Harrisburg, Pa.
WGAL	Lancaster, Pa.
WFIL	Philadelphia
KDKA	Pittsburgh
WORK	York, Pa.

East North Central States

WENR	Chicago
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WBOW	Terre Haute, Ind.
WBCM	Bay City, Mich.
WXYZ	Detroit
WFDF	Flint, Mich.
WIBM	Jackson, Mich.
WJIM	Lansing, Mich.
WSAI	Cincinnati
WING	Dayton, Ohio
WIBA	Madison, Wis.

West North Central States

KSO	Des Moines, Iowa
KMA	Shenandoah, Iowa
KSCJ	Sioux City, Iowa
WREN	Lawrence, Kan.
KANS	Wichita, Kan.
KYSM	Mankato, Minn.
WTCN	Minneapolis
KROC	Rochester, Minn.
KFAM	St. Cloud, Minn.
KWK	St. Louis
KSOO	Sioux Falls, S. D.

South Atlantic States

WCOA	Pensacola, Fla.
WAGA	Atlanta, Ga.
WSOC	Charlotte, N. C.
WTAR	Norfolk, Va.
WRTD	Richmond, Va.
WCKY	Charleston, W. Va.
WBLK	Clarksburg, W. Va.

East South Central States

WAVE	Louisville, Ky.
WAPO	Chattanooga, Tenn.
WROL	Knoxville, Tenn.

West South Central States

WJBO	Baton Rouge, La.
KTOK	Oklahoma City
KFDM	Beaumont, Texas
KTSM	El Paso, Texas
KGKO	Fort Worth, Texas
KNYZ	Houston, Texas
KRGV	Weslaco, Texas

Mountain States

KTAR	Phoenix, Ariz.
KVOA	Tucson, Ariz.
KVOD	Denver
KGHF	Pueblo, Colo.
KOB	Albuquerque, N. M.
KLO	Ogden, Utah
KUTA	Salt Lake City

Pacific States

KECA	Los Angeles
KFSD	San Diego, Calif.
KGO	San Francisco
KTMS	Santa Barbara, Calif.
KEX	Portland, Ore.
KJR	Seattle
KGA	Spokane

Canada

CFCF	Montreal

Good teachers today realize that children who are fearful are real problems, and a way for overcoming the fears must be devised for them.

HELPING CHILDREN to OVERCOME their FEARS

By J. MACE ANDRESS

WHAT is of greatest worth in education? Teachers, parents and even pupils are likely to answer "knowledge." The reason for this is obvious. Is not most of the work of the school centered around assignments in books? Pupils from the lowest grades up through the high school are expected to master the contents of such assignments and report on them orally or in writing to the teacher. Examinations are based on the measure of success with which these reports are made. Finally, in most schools, pupils and parents get these reports on cards in which the standing of the pupils are recorded in symbols such as A, B, C, D and F. One state controls the teaching and promotion of its school children through a series of regular examinations. It would seem as though a knowledge of factual material is of most worth.

Within recent years this theory has been seriously questioned by such scholars in school hygiene as William H. Burnham, Ph.D., who has emphasized the importance of the development of a wholesome personality. In such a personality, hope, confidence and skill in meeting practical life situations are essential. A review of two case histories will help to make this point of view clear.

First let us consider Mr. B. As a small boy he became conscious of an awkwardness in using his hands and feet. His parents and schoolmates laughed at him when he tried to skate, dance or play ball. This led him to retire within himself. He refused to play games with his classmates. He became more and more an onlooker. He was called a "sissy." His father suggested that he take a paper route. He made the attempt but gave it up after several of his patrons "balled him out" because of a necessary late delivery of the paper. His attitude of inferiority and helplessness was carried over to many other situations and led to failure. But in class he did rather well, for he had a good memory. In both high school and college he got good marks and graduated with high honors. He secured a position as a reporter on a daily newspaper; but he was so shy about interviewing people that he soon gave it up. Next he tried teaching English, but he was so timid that he did not dare to look his pupils in the face. He lectured to them while gazing fixedly at a chandelier or some point in the room. Finally he was dismissed and is now being supported by relatives.

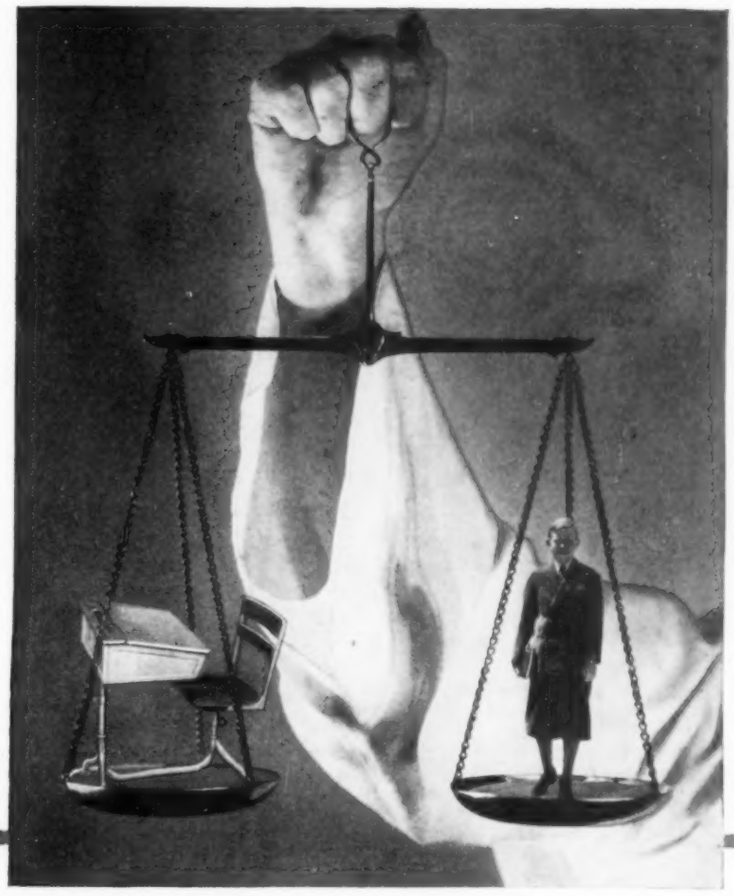
Here was a man who, as a child, enjoyed good physical health and had intelligence. His home, school and general environmental influences were apparently favorable for a happy and successful life, but in some way he developed fear. He was literally afraid of his own shadow. He was afraid of life. His mental life became morbid and he acquired nervous indigestion and other maladies as a probable result of emotional disturbance. It is easy to imagine and believe that if he had been trained to meet situations of life with skill and courage, he might have been successful. He

measured up to the school's formal requirements 100 per cent; but the school failed to note his shortcomings in adjustment and offer practical help, for we now know that most fears are learned, that undesirable fears may be prevented and confidence built up. Obviously this should be one of the significant goals of the teacher.

The fear of participating in class discussion and recitation is one source of untold misery and failure in school. Jane was a timid girl. She seemed incapable of reciting or passing a test. She stole furtive glances at the teacher when she expected to be called, and she appeared nervous. When questioned, she said her work did not seem difficult. She understood it easily but could not remember any of it when called on in class.

Fortunately, the teacher was intelligently sympathetic. Her procedure was based on the psychologic principle that fear grows out of failure to meet situations and that courage, confidence and morale result from continued success. The teacher told Jane that she would not be called on for two weeks but that once every day she was to recite to herself as though she were reciting to the teacher. At the end of this time she reviewed with Jane questions she intended to ask her. She was instructed that when called on she should rise slowly and deliberately, take all the time needed, make the recitations as brief as she chose, and at the first feeling of confusion she should sit down. The beginning was not too encouraging, but through the friendly cooperation of pupil and teacher a new confidence was born. Jane began to volunteer to talk and ask questions. Finally fear disappeared, and Jane was participating in class work freely, successfully and with satisfaction. No one knows just what this has meant and will mean to a girl who was learning to shrink from facing reality.

Good teachers today realize that children who are fearful are real problems. It is the teacher's business to be on friendly terms with all her pupils and to encourage a schoolroom atmosphere in which fear does not have a chance to grow. Even if it is not rated on the report card, the development of hope, courage and confidence are as important, if not more so, than reports of formal academic work.



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A crippled child is a real challenge to a teacher, for she must be managed with the utmost tact.

A Crippled Child in the Classroom

By EDNA S. SOLLARS

Most teachers are at some time likely to have a crippled child among their pupils. Such a child is different from the others and may present a serious problem to the teacher. How may one understand such a problem? Miss Sollars, a teacher in the Spalding School for Crippled Children, Chicago, offers the regular classroom teacher some helpful suggestions.

YOU may feel somewhat appalled at the problem confronting you the first time a crippled child is enrolled in your schoolroom as a regular pupil. However, this is a situation with which you will probably have to cope every now and then in your teaching career, as more than 50,000 persons are permanently injured each year in the United States by accident, illness or conditions existing at birth, and a tragically large proportion of this number are children. The more abnormal cases will receive their education in highly specialized institutions, such as the Spalding School for Crippled Children in Chicago; but many of the less handicapped will attend the ordinary public school and thus give rise to an entirely new set of conditions for the teacher.

Fortunately, problems were made to be solved, and this one is no exception. After the first wonderment as to how you will handle the situation and the first emotional pull on your sympathies, you will find the handicapped child a distinct challenge. He is really a double challenge, for in addition to making the best possible adjustments for his physical needs, to instill a mental state which is the natural outgrowth of bodily defects will require the utmost skill—the most subtle, unobservable tact—and a genuine, sympathetic understanding, if he is some day to become in all practical ways a self respecting citizen.

It will not be difficult to take care of the more obvious physical needs, and when these are reduced to a minimum, the child will become less conscious of his condition and consequently more normal in his attitude. If he wears braces, walks on crutches or is so crippled his weakened body cannot withstand the careless onslaughts of his more vigorous mates, let him enter the school building and classrooms a trifle later than the other students and leave a shade sooner. Perhaps one knee is stiffened, and if this is so, an extension may be placed on the seat of his desk—such as is used in similar cases in the Spalding School. Seats may also be arranged near doors and blackboards, so no excess movements will be necessary. He will thus be spared any needless embarrassment.

This matter of embarrassment is vastly important to the handicapped, for children are the great conservatives of the race, and any noticeable differentiation in their clothing or appearance is a cause of unbelievable anguish and sorrow. This slowly builds up an inferiority complex so defeating it is most difficult to combat.

There are other ways, too, in which the child's morale may gradually be increased by attention to his health. Let him share in the milk feeding so common in most schools, and permit him to visit physician, surgeon or clinic whenever that is deemed advisable.

Of course your sympathies will be deeply touched in the presence of unfortunate childhood, and you may find it difficult not to yield; but these are the sentiments which also cause parents to spoil a handicapped youngster. What should be your most important approach to such a child? Miss Thecla Doniat, who was chosen by President Roosevelt to represent the United States at a congress held for crippled children in Geneva, Switzerland, and who is also the principal of Spalding School, says, "There is no special psychology for handling the crippled child. Why should there be? His infirmity is physical, so treat him as you treat other children, and he will respond as do other children."

That sounds simple enough; but until you have rid yourself of your own mental hazard, you may find some difficulty in putting it in practice. Mothers have an almost incurable tendency to favor a handicapped child—a tendency which is often bitterly resented. I heard one lame boy cry out desperately at the dinner table, "I don't want the biggest biscuit. I want biscuits like you give Johnny and Sis." Poor child, the very tenderness of his mother only increased his own miserable sense of weakness and inferiority. More than anything else in the world, he wanted to feel like Johnny and Sis; but how could he, when he was treated differently?

You will probably have the same impulsive sympathetic reaction and instinctively favor your less favored pupil. But don't let yourself do it. It will either increase his own self consciousness or inflate his ego. It will harm the other students, too, for you know how unpopular a person becomes who is the "teacher's pet." In one schoolroom where a teacher involuntarily made things easier for a crippled child, a per-

fectly normal boy was heard to say, "Gosh, I wish I was lame. Then maybe I'd get some attention, too."

Grade the handicapped one as closely as his fellows. In no other way will he learn that when school days are over, and he is on his own before the world, he cannot win even a modicum of success without putting forth his best effort, as the necessity for meeting competition increases with the years. A brilliant young attorney with a noticeable deformity once told me he achieved his first real self respect while a student in law school. He had been allowed to slip through elementary and high school by well meaning, but misunderstanding, teachers. One day in the law classroom, he replied quite nonchalantly to a question put by his instructor that he didn't know the answer, since he had not felt like studying the previous evening.

"Zero for you," snapped the professor. "If you get good grades here, you'll earn them, like all the rest."

Children burn with the desire to resemble their fellows and to achieve distinction in their childish world. Given the right sort of personality which may be trained under your guidance, there is no real reason why they should not share in many school activities. They may umpire ball games, serve as hall monitors or have a large share in school government. There, too, are the newspapers, debating societies and all manner of general interests.

Likely some of the most constructive work will be accomplished with your handicapped pupil in quiet or stimulating little chats when classes are over or during other heart-to-heart interviews. Such moments are invaluable, for most persons like talking about themselves, and sensitive, shrinking children are no exception to this universal rule. They frequently need to talk over their problems; to bring out in the open all the misery and loneliness they shut away so tightly in their proud little hearts. How happy you will be to replace gradually their sense of isolation and failure with that of courage and faith in themselves.

The fear that either failure, hurts or misunderstandings will crush all budding aspiration is a definite stumbling block to the handicapped, whether acknowledged in words or

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not. Gradually replace this fear with courage—the courage which dares to make an effort whatever its consequences—and you may have attained the highest peak in your life work. Talk over the handicaps sanely, quietly and honestly. Neither minimize nor exaggerate it. There it is, a factor to be reckoned with, so meet it as it is. A handicap is unfortunate, but it is not an affliction. Although unfortunate, it may often serve as a spur toward greater efforts than would be made under normal circumstances. Talk this over. A handicap is sometimes the precursor of a great ambition, and when you have given ambition, you have given hope and a new interest apart from himself. Because of his physical unfitness, the handicapped one often yearns to excel.

This desire to excel will be of the greatest practical value to the child in his school and later life. He might sometime find it difficult to obtain employment, did he not do his work a little better than his competitors, and all this marvelous foundation for future normalcy and success is within your power to give.

You may begin your work with the handicapped child with much sentimentality, but that will wear away in time, as it should. Lame legs and paralyzed arms are no more conducive to sainthood in children than a throbbing toothache or tight shoes are soothing to your own nervous system. They are very human—these boys and girls—with just as many failings as their brothers. You may have a pupil who seeks to hide his weakness and sense of inferiority behind a blustering aggression, such as the lad who repeatedly whacked his companions with his artificial leg.

Whatever type are these occasional students—shy, neurotic, bold—each is a separate challenge. Patience, tact, understanding, firmness, humor are all required, if the child is to leave your schoolroom with a stronger ability to face facts as they are, a new courage to make the most of life and a release of long repression into new interests and ambitions. You may not accomplish all this in a few semesters, but you can plant the seed and give an impetus to a broader and better balanced life.

The Spalding School for Crippled Children is located at 1628 Washington Blvd., Chicago.

Variety in Health Programs

By HELEN M. SMITH
and EFFIE G. BATHURST

The creativeness of pupils may be used to great advantage in health teaching. Miss Smith, who teaches social science in the Santa Barbara (Calif.) High School, and Miss Bathurst of the faculty of Teachers College, Columbia University have given many practical suggestions on creativeness in their series of articles. In the sixth and final article of the series, they show how varied creative activities may be.

MANY children forget the details they learn about the structure of body organs. But the Santa Barbara boys and girls who are presented in this series of articles are not likely soon to forget the ways of preserving the health which they learned through their play, "Guard Your Health," and the study of "Personal Health" on which it was based.

Part of the value of the program was due to the fact that the activities were new, fresh and different from things the pupils had previously done. Many other types of programs could have been developed from the study of personal health if the children had needed more variety.

For example, with the curriculum unit centered as it was around ways of improving things we do every day, the children could have planned demonstrations. After a study of walking and of the health and care of the feet, for instance, a program which included demonstrations of correct and incorrect ways of walking, of healthful and unhealthful posture and of good and poor types of shoes is effective. Accompanying the demonstrations, there should be pupil discussions of the health principles involved.

In a study of healthful dress, a style show can be planned in which correct kinds of dress are shown for various types of activity, such as for working, hiking, going to the theater and attending church; for changes in the weather, such as rain, unusually warm or cold days or snow, and for different types of environment, such as city or country. Principles of cleanliness, attractiveness and neatness in dress should be included for the wholesome mental effect these things have on the wearer and his associates.

In a study of nutrition, a food show is appropriate, in which balanced meals and diets of different types are shown by modeled wax "foods," by pictures and charts and by real fruits and vegetables properly prepared for cooking. A demonstration of the proper way of cooking some vegetable which is frequently wrongly cooked, such as cabbage or spinach, is interesting and useful, especially if accompanied by explanation of processes.

A program activity which both audience and participants usually enjoy on such vital subjects as health is a Question Box. When invitations are written, each guest can be requested to send a question which he would particularly like to have the pupils who have made the study discuss. Pupils can study the questions before the program, and individuals can give short talks about them at the program. Then the audience can be invited to join in a general discussion. When younger children are invited as guests, they can be asked to write questions for the question box after they have assembled, and the hosts can draw questions on which to speak. In this type of program the topic should be limited to the study which the children have made and should be mentioned in the invitations.

A review of "Community Health," the second part of the study, shows additional varieties of activity which contribute to programs about health. "Community Health" was organized for study around the question "What resources in the community contribute to and conserve our health?" Among the topics which the teacher and pupils listed for the study were (1) local service agencies for medical aid, for recreational opportunities and

for control of pests, bacteria and germs; (2) local legislation, and (3) the city water supply.

Some of the local service agencies for medical aid which the children studied were: (a) the city health department; (b) preventoriums and sanatoriums; (c) the Children's Clinic and the Well-Baby Clinic, and (d) the Red Cross. In their study the pupils secured literature from the various agencies, made graphs of the number of persons cared for through local medical facilities in the past year, gathered pictures to show the type of help given and took excursions to the headquarters of the agencies.

Recreational opportunities were studied in the same way. Among these were the swimming pool, athletic association, and the facilities of the Y. M. C. A. and Y. W. C. A.

In learning about the community's control of pests, bacteria and germs, the children studied fumigation, the use of antiseptics and disinfectants, pasteurization of milk and elimination of mosquitoes and flies and their breeding places.

Program activities appropriate in connection with the study of local service agencies and their facilities include (a) lectures by medical specialists and by the presidents of the local Red Cross and Y. W. C. A. and Y. M. C. A., who were invited to speak to the class on such topics as the progress of medicine in recent years and on the types of medical care and recreational services available to school children; (b) dramatizations; (c) tableaus or demonstrations of the activities of the agencies studied; (d) simple demonstrations of the pasteurization of milk, and (e) motion pictures entitled "The House Fly" and "Mosquitoes and Their Breeding Places."

The children took a trip to a large dairy and planned a radio broadcast of the activities observed there. Many interesting facts not generally known were presented about the way milk is kept clean and wholesome and made into various useful foods, such as butter, cheese and ice cream.

Social legislation affecting health includes quarantine laws; inspection of buildings, housing and plumbing; inspection of institutions serving the public, such as dairies, restaurants, and ice cream parlors; protection of foodstuffs; standards for sanitary disposal of garbage and sewage; protection against medical fraud, such as quacks and "patent medicines," and cleanliness of city streets. Ways of studying such legislation included securing and reading copies of local health laws and charts showing city death rates from certain diseases before and after quarantine laws were in effect; a visit to a local dairy, a grocery store and meat market; making a chart of things individual pupils have done to help keep the community clean, and making up a play showing inspectors visiting various institutions and discussing facilities for health and sanitation. Activities appropriate for programs include a play, committee reports on visits to a grocery store, meat market and dairies, through which the importance of certain laws are shown, and the display and explanation of pupil-made charts and collections.

How the city maintains and purifies its water supply was a question that suggested a number of interesting activities. "What is the difference between temporarily and permanently hard and soft waters?" some of the children wanted to know. "Why is it necessary for some water to be purified before it can be consumed by the public?" "How is this accomplished?" "How is the water we use stored for the city?" Interesting activities are possible to coordinate the study of such questions and for the programs to be built in connection with them.

Phases of "Community Health" for which there is not room for discussion in this article are the city's safety regulations, the effect of the location and environment on the health of the people, means of continuously informing citizens about new discoveries and practices in the improvement of health, and things children can do in spreading new information and in raising the standards of community health.

Plans for the third and last part of the study, that of "National Health," included search for information about the agencies concerned with the improvement of health throughout the nation; a discussion of group medicine in which arguments for and against the plan were considered, and a consideration of the cost of disease to the country as a whole.

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Program activities appropriate for this part of the unit are a forum or panel discussion of group medicine, a series of tableaus showing Red Cross and Child Welfare activity and a little play on the value of the Food and Drugs Act.

In general, the number and variety of program activities useful in the development of a health curriculum are limited only by the initiative and resourcefulness of teacher and pupils. Their educational value is in direct proportion to the extent to which the children are active and creative participants, not only in presenting the program but also in deciding what type to give, what activities to include and how to develop them, who will be responsible for different parts and tasks, where to secure material and whom to invite.

To Contributors:—The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length and must be typewritten double spaced. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address J. Mace Andress, editor of School and Health Department of HYGEIA, *67 Clyde St., Newtonville, Mass.*

ELASTIC APRON STRINGS (Continued from page 133)

ally taught that they are the all-important members of their family group—hence of their outside groups—hence of the world.

Only by being made real sharers of family responsibility can young ideas be taught to grow in the direction of real freedom. Children can share in the housework, share in keeping the house quiet when the baby is asleep, share in keeping order and peace. They can cooperate with the maid's work, to keep the wheels moving smoothly. By 5 years, a child ought to be able to dress himself, given enough time; and by six, he ought to be able to dress with some skill and promptness. He should be able to take his bath without assistance, the year he is 6.

Your 8 year old girl can be a real help in making beds. She can help to clear the table. Often this is a good means of dealing with that restlessness children show between courses. Let them jump up and clear dishes away after the first course. Almost any maid will appreciate the child's cooperation. Little girls of 7 or 8 can begin helping with dishes, and by 11 or 12 they can get breakfast, do some of the dusting or run the vacuum cleaner. A half an hour a day during the school year is about the right length of time for a child's household tasks. Your 7 year old boy may be given charge of the household pets. He might supervise the dog's routine, feed the Sealyham or the cocker and see that the dog is outdoors or in his house on schedule. Offers to help should never be ignored. They should be met with some provision for "busyness"; even if the particular task seems beyond the child, he may be given a chance to prove that to himself. The young child's offer of help is a means of aiding him to form the habit of thinking of others from choice, not merely from obedience to adult orders.

Oversolicitude of adults often results in overstimulation of the children. Too many toys, too many supervised activities, too much planned entertainment may destroy the child's own power to create fun for himself. Playing alone with simple materials in a quiet room is the best known restorer of poise. It is a remedy for temper tantrums, scrapping and irritability. Children should be left alone occasionally, if only to train them to do without the company of their parents. Worklike activities should be provided for these intervals of learning to be alone. That dreaded spectacle, the child show-off, is a product of parents' overeagerness. The show-off does not usually develop in families whose adult members refrain from discussing the child with other adults when the child himself is present and refrain from offering him as a source of entertainment.

Parents should understand that emotional growth does not always keep step with intellectual growth. Successive phases of independence must develop with naturally maturing abilities. Thus, in a tense moment, reasoning with a young child is not always a wise procedure. In cases where the decision is obviously to be made by adults, a parent need not appeal to the child as a judge, even with

so-called "reasoning" or affection. Decision is the parents'; they will avoid inner conflict for the child and outer conflict for themselves, if they make the decision clear in such instances. Children have a certain definite faith in authority; some children are definitely happier when an authentic voice brings order into a group. The important point of view is that the authority is there inviting cooperation, and therefore the child himself is an instrument of authorizing cooperation. Herrick has expressed this appealing quality of childhood in his lyric:

"Here a little child I stand,
Heaving up my either hand;
Cold as paddocks though they be,
Here I lift them up to Thee
For a benison to fall
On our meat and on us all."

Here are the correct answers to "Parents Take a Test" on page 133:

KEY

1. F	6. F	11. F
2. T	7. T	12. T
3. T	8. F	13. F
4. F	9. F	14. F
5. T	10. F	15. F

DEADLY DISEASE NUMBER 1 (Continued from page 169)

recognized rules of health from infancy to old age that should help to reduce the three chief hazards of the heart—rheumatic infection, hypertension and coronary disease. These rules include breeding from sturdy, long-lived ancestral stock; good nutrition in childhood with comfortable, clean and sunny living quarters; regular exercise and avoidance of obesity in early and middle adult life, and protection from continuous and excessive nervous strain. These rules were laid down in antiquity and were perhaps better practiced then than now. Certainly most moderns are not showing much wisdom in the application of these rules to their own lives. The chief offender today is the American business or professional man who forces himself, or is expected, to be so busy during the day and so entertained or entertaining during the evening, week in and week out, that he perforce neglects his own health until trouble comes. It is full time that the American people should take action on this grave but remediable state of affairs. This is no plea for the mollycoddle but is the conviction of one who has seen many hundreds of these business and professional men and who believes that there is a healthy middle course between the path of the invalid and that of the blind follower of the "strenuous life."

Sulfanilamide Prevents Contamination of Stored Blood

Another use for sulfanilamide is pointed out in *The Journal* of the American Medical Association by Milan Novak, Minneapolis, who states that the addition of a small amount of it to stored blood will prevent bacterial contamination.

With the increasing importance of blood transfusion in recent years, Novak points out, a solution to the problem of contamination is vital. He states that estimates have been made of contamination running as high as 50 per cent in stored blood. Blood is an excellent vehicle for bacterial growth; some organisms live and multiply in blood stored at temperatures as low as 39.2 to 42.8 F.

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Effect of Irregular Hours and Hasty Eating

The influence of irregular working schedules and hasty eating of meals is illustrated by the unusually large incidence of gastrointestinal diseases among a group of steel mill workers who are subjected to a changing weekly shift.

In the *Canadian Public Health Journal* F. E. H. Day, Hamilton, Ont., reports the results of a study of 3,200 employees of a steel plant. During 1938, he found, gastrointestinal diseases accounted for 2,377 days of lost time in contrast to 946 lost days attributed to respiratory illnesses and 881 days to diseases of the heart and blood vessels.

Frequently the indigestion of a patient will improve satisfactorily until he starts night work, when it immediately recurs. This particular type of work, with its intense heat, gas and dust, predisposes to the occurrence of digestive disorders. All the employees carry lunches, which are eaten in a thirty-minute rest period or, more often, snatched during a pause in the mill.

Eighty men among these workers have had positive x-ray diagnosis of peptic ulcer and have been placed under observation, and there is a record of one death from a perforation.

Weeping While Eating

Two instances of crocodile tears or weeping while eating are reported by Lester Allen Russin, Iowa City, in *The Journal* of the American Medical Association. While the patients ate, tears would brim over their eyes and run down their cheeks.

The author explains this oddity by stating that the part of the seventh cranial nerve which controls the flow of saliva was misdirected or perhaps fused with that part of the nerve controlling weeping, both functions being performed by each part of the nerve.

Eight previous cases have been cited in medical literature. Russin reports that in both cases he cites there was a history of previous injury to the head, and he believes that the fusion or misdirection of the nerve took place during the recovery or healing from the injury.

Medical News

OF THE MONTH

Allergic Diseases and Rheumatism

Rheumatic patients have allergic diseases much more commonly than does the general sick population, Eugene F. Traut and Emil G. Vrtiak, Chicago, conclude from a study which they report in the *Annals of Internal Medicine.*

The 359 rheumatic patients they studied exceeded the 100 "controls" selected from a general sick population by 200 to 300 per cent in the frequency and severity of the various manifestations of allergy in themselves as well as in the closeness of the relationship of allergic relatives.

"The high incidence of allergic manifestations in people with rheumatism," the authors explain, "is evidence of an increased tendency of the rheumatic to react in an unusual manner to his environment."

Removal of Teeth and Tonsils

"The removal of teeth and tonsils in an effort to influence the course of systemic diseases (those not restricted to any particular portion of the body) is unjustified in the majority of cases," Hobart A. Reimann and W. Paul Havens, Philadelphia, declare in *The Journal* of the American Medical Association.

"The old dictum 'after it, therefore, because of it' should not mislead one," the authors say in pointing out that they believe there should be a complete revaluation of the theory that focal or localized infection, such as that of teeth and tonsils, seems to be the cause of a variety of systemic diseases.

"It is generally admitted that occasional improvement does occur after operation on supposed infected areas. Such examples suggest, but by no means prove, a causal relationship. One can never be certain whether recoveries, especially spectacular ones, occurring often a few hours after operation are not partly due to faith, chance, coincidence of spontaneous cure or to nonspecific factors, or whether the same degree of improvement might not have been brought about by less drastic or less dangerous methods.

"It is probable that the occasional recoveries which occur are equaled or even outnumbered by instances of immediate or delayed harm which may follow operative procedures in the form of hemorrhage, septicemia [blood poisoning], lung abscess, or grave systemic disease and even death. One more easily remembers prompt successes than delayed failures."

When infected teeth or tonsils are removed, they of themselves should require such a procedure.

Indelible Lipstick Dye

A dye contained in an indelible lipstick she was using caused many skin eruptions on a woman whose case is reported by Rudolph Hecht, B. Z. Rappaport and Leon Bloch, Chicago, in *The Journal* of the American Medical Association.

These changes consisted of dry, fissured and cracked lips, itching eyelids and scaling and redness about the face and eyelids and behind the ear. Stomach upsets were also caused by this dye, which is called tetrabromofluorescein. The authors believe that the general use by American women of lipsticks containing this or related dyes may explain many obscure conditions similar to this case.

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